STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 198427

TO: Unsu Jung Location: REM/3B76/3C70 Art Unit: 1641 Thursday, August 24, 2006 Case Serial Number: 10/815727	From: Alex Waclawiw Location: Biotech-Chem Library Rem 1A71 Phone: 272-2534 Alexandra.waclawiw@uspto.gov

Search Notes

PTO/SPE/ONLY USE ONLY 8-1034

ACCESS DB # 199427

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Unsu Jung Examiner #: 80893 Date: 8/22/06

Art Unit: 1641 Phone Number: 2-8506 Serial Number: 10/815,727

Location (Bldg/Room#): 2C4/3B76 (Mailbox #): 3C70 Results Format Preferred (circle): PAPER DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search attached compound diglycerylsilane (DGS)

****

STAFF USE ONLY

Searcher: _____

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: _____

Searcher Prep & Review Time: _____

Online Time: _____

Point of Contact:
Alexandra Waclawiw
Technical Info. Specialist
571-272-2502 Tel: 308-4491

Type of Search

_____ NA Sequence (#)

_____ AA Sequence (#)

_____ Structure (#)

_____ Bibliographic

_____ Litigation

_____ Fulltext

_____ Other

Vendors and cost where applicable

_____ STN _____ Dialog

_____ Questel/Orbit _____ Lexis/Nexis

_____ Westlaw _____ WWW/Internet

____ In-house sequence systems

___ Commercial ___ Oligomer ____ Score/Length

___ Interference ___ SPDI ____ Encode/Transl

_____ Other (specify)

65

=> d his ful l1-l2;d que stat l2;d his ful l3

Structure search

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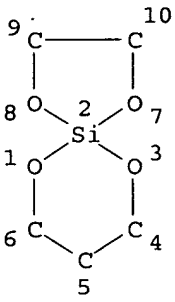
ACT JUNG/A

L1 STR
L2 12 SEA SSS FUL L1

L1 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
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100.0% PROCESSED 1437 ITERATIONS 12 ANSWERS
SEARCH TIME: 00.00.01

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D QUE STAT L2

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STRUCTURE FILE UPDATES:   23 AUG 2006  HIGHEST RN 904004-64-4
DICTIONARY FILE UPDATES:  23 AUG 2006  HIGHEST RN 904004-64-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

  Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

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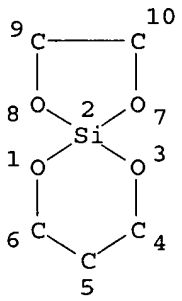


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FILE COVERS 1907 - 24 Aug 2006 VOL 145 ISS 9
FILE LAST UPDATED: 23 Aug 2006 (20060823/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html
'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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L1 STR
L2 12 SEA FILE=REGISTRY SSS FUL L1
L3 5 SEA FILE=CAPLUS ABB=ON PLU=ON L2

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L3 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:200129 CAPLUS
DOCUMENT NUMBER: 142:440771
TITLE: Behavior of Tri(n-butyl)ammonium Bis[citrato(3-)-O1,O3,O6]silicate in Aqueous Solution: Analysis of a Sol-Gel Process by Small-Angle Neutron Scattering
AUTHOR(S): Seiler, Oliver; Burschka, Christian; Schwahn, Dietmar; Tacke, Reinhold
CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet Wuerzburg, Wuerzburg, D-97074, Germany
SOURCE: Inorganic Chemistry (2005), 44(7), 2318-2325
CODEN: INOCAJ; ISSN: 0020-1669
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:440771
ED Entered STN: 08 Mar 2005
AB The racemic hexacoordinate silicon(IV) complex tri(n-butyl)ammonium bis[citrato(3-)-O1,O3,O6]silicate (1) was synthesized by treatment of Si(OMe)4 with 2 molar equiv of citric acid and 2 molar equiv of NBu3. The corresponding germanium analog, tri(n-butyl)ammonium bis[citrato(3-)-O1,O3,O6]germanate (5; structurally characterized by single-crystal x-ray diffraction), was obtained analogously, starting from Ge(OMe)4. Upon dissoln. in water, the λ6Si-silicate dianion of 1 hydrolyzes spontaneously (formation of Si(OH)4 and citric acid), whereas the λ6Ge-germanate dianion of 5 is stable in water. Aqueous solns. of 1, with concns. that are significantly higher than the saturation concentration of Si(OH)4, look absolutely clear over a period of several weeks; however, in

reality, these solns. are sols with very small particles that slowly grow with time and finally form a gel that ppts. This sol-gel process was monitored by small-angle neutron scattering (SANS). For reasons of comparison, an aqueous solution of the hydrolytically stable germanium compound 5
was also studied by the SANS technique.

CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 66, 75

IT **444084-58-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of tributylammonium citrato silicate and small-angle neutron scattering anal. of sol gel process of hydrolyzed citrato silicate)

IT **444084-58-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of tributylammonium citrato silicate and small-angle neutron scattering anal. of sol gel process of hydrolyzed citrato silicate)

RN 444084-58-6 CAPLUS

CN Silicate(4-), bis[2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, (OC-6-22')-, tetrahydrogen, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

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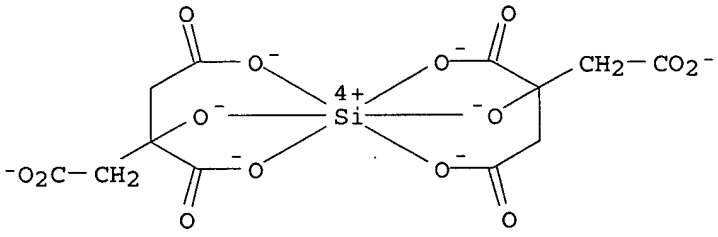
CCI CCS



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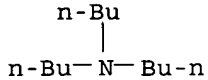

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:973554 CAPLUS
DOCUMENT NUMBER: 142:402782
TITLE: Hexacoordinate silicon(IV) complexes with SiO6 skeletons and multidentate ligands derived from citric acid or malic acid
AUTHOR(S): Tacke, Reinhold; Bertermann, Ruediger; Burschka, Christian; Dragota, Simona
CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet Wuerzburg, Wuerzburg, D-97074, Germany
SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (2004), 630(12), 2006-2012
CODEN: ZAACAB; ISSN: 0044-2313
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:402782
ED Entered STN: 16 Nov 2004
AB Morpholinium meso-bis[citrato(3-)-O1,O3,O6]silicate (meso-5) and racemic morpholinium bis[citrato(4-)-O1,O3,O6]silicate (rac-6) were synthesized by treatment of tetramethoxysilane with citric acid and morpholine (molar ratio 1:2:2 and 1:2:4, resp.). Treatment of tetramethoxysilane with (S)-malic acid and NPr3 or NBu3 (molar ratio 1:3:2) yielded tri(propyl)ammonium (Λ,S,S,S)-mer-tris[malato(2-)-O1,O2]silicate ((Λ,S,S,S)-mer-7) and tri(butyl)ammonium (Λ,S,S,S)-mer-tris[malato(2-)-O1,O2]silicate ((Λ,S,S,S)-mer-8). The hexacoordinate silicon compds. meso-5·2MeOH, rac-6·1.73MeOH, (Λ,S,S,S)-mer-7, and (Λ,S,S,S)-mer-8·2MeCN were structurally characterized in the solid state by single crystal X-ray diffraction and VACP (Variable-Amplitude Cross Polarization)/MAS NMR spectroscopy (13C, 15N, 29Si). Upon dissoln. in water at 20°C, spontaneous hydrolysis of the λ6Si-silicate anions was observed
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 75
IT 849907-39-7P 849907-40-0P **849935-58-6P 849935-60-0P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and crystal structure and hydrolysis of)
IT **849935-58-6P 849935-60-0P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and crystal structure and hydrolysis of)
RN 849935-58-6 CAPLUS
CN Silicate(4-), [(2R)-2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2][(2S)-2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, (OC-6-24)-, tetrahydrogen, compd. with methanol and morpholine (1:2:2) (9CI) (CA INDEX NAME)

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H_3C-OH

CM 2

CRN 849935-57-5
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CRN 849935-56-4
CMF C12 H8 O14 Si . 4 H
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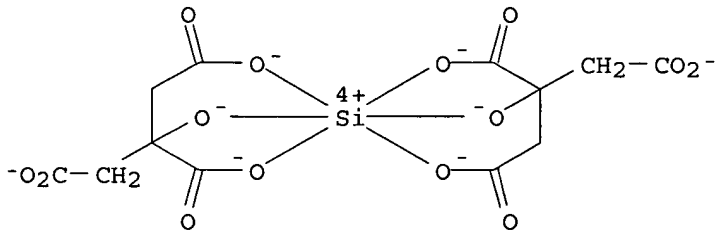

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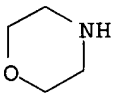

RN 849935-60-0 CAPLUS
CN Silicate(4-), bis[2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, tetrahydrogen, (OC-6-22')-, compd. with methanol and morpholine (1:?:2) (9CI) (CA INDEX NAME)

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CMF C H4 O

H_3C-OH

CM 2

CRN 849935-59-7
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CRN 444084-57-5
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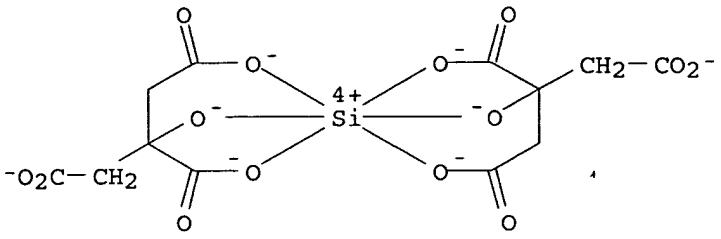
CCI CCS



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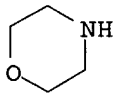

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:590994 CAPLUS
DOCUMENT NUMBER: 139:154995
TITLE: Higher-coordinate silicates for use in pharmaceutical,, cosmetic, and dietary food stuff
INVENTOR(S): Tacke, Reinhold; Richter, Ingo
PATENT ASSIGNEE(S): Julius-Maximilians- Universitaet Wuerzburg, Germany
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003061640	A1	20030731	WO 2003-EP743	20030124

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: GB 2002-1618 A 20020124
ED Entered STN: 01 Aug 2003
AB This invention relates to silicon compds. and their therapeutic use, their use in cosmetic formulations and their use in dietary food stuff. Tetramethoxysilane (1.00 g, 6.57 mmol) and tri(n-butyl)amine (2.43 g, 13.1 mmol) were added one after another at 20 °C to a solution of citric acid (2.52 g, 13.1 mmol) in THF (10 mL). The mixture was stirred for 2 min and then kept undisturbed for 2 days at 20 °C. The resulting crystalline product was isolated by filtration, washed with di-Et ether , and dried in vacuo to obtain tri(n-butyl)ammonium bis[citrato(3-)-01,03,06]silicate, yield = 93%, m.p. 188 °C.
IC ICM A61K031-00
ICS A61K007-00; C07F007-04
CC 63-8 (Pharmaceuticals)
Section cross-reference(s): 17, 28, 62
IT 29991-08-0P 31524-52-4P 60256-08-8P **444084-58-6P**
448898-67-7P 569646-75-9P **569648-93-7P**
RL: COS (Cosmetic use); FFD (Food or feed use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(higher-coordinate silicates for use in pharmaceutical,, cosmetic, and dietary food stuff)
IT **444084-58-6P 569648-93-7P**
RL: COS (Cosmetic use); FFD (Food or feed use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(higher-coordinate silicates for use in pharmaceutical,, cosmetic, and dietary food stuff)
RN 444084-58-6 CAPLUS
CN Silicate(4-), bis[2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, (OC-6-22')-, tetrahydrogen, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

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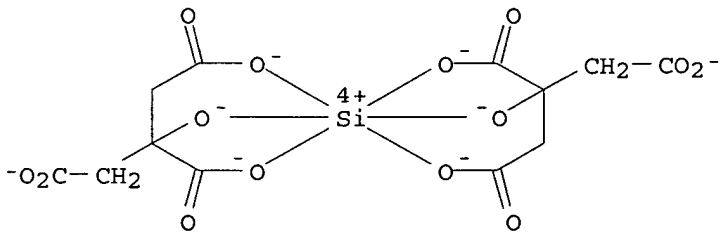

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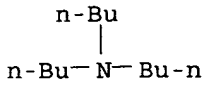
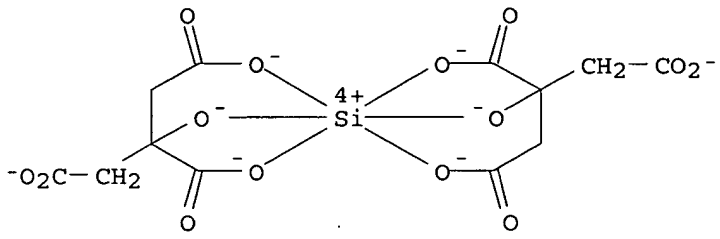


RN 569648-93-7 CAPLUS
CN Silicate(4-), bis[2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, dihydrogen, (OC-6-22')- (9CI) (CA INDEX NAME)



●2 H+

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:346679 CAPLUS
DOCUMENT NUMBER: 137:134019
TITLE: Bis[citrato(3-)-O1,O3,O6]silicate: a dianionic complex with hexacoordinate silicon(IV) and two tridentate dioato(2-)olato(1-) ligands
AUTHOR(S): Tacke, Reinhold; Penka, Martin; Popp, Friedrich; Richter, Ingo
CORPORATE SOURCE: Institut fur Anorganische Chemie, Universitat Wurzburg, Wurzburg, 97074, Germany
SOURCE: European Journal of Inorganic Chemistry (2002), (5), 1025-1028
CODEN: EJICFO; ISSN: 1434-1948
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:134019
ED Entered STN: 09 May 2002
AB Simple preparative methods for the synthesis of a hexacoordinate silicate dianion with two tridentate citrato(3-) ligands were developed. Thus, treatment of tetramethoxysilane with two molar equivalents of citric acid and two molar equivalents of tri(n-butyl)amine in THF yielded tri(n-butyl)ammonium bis[citrato(3-)-O1,O3,O6]silicate (1). Alternatively, 1 was prepared by treatment of tetrachlorosilane with two

molar equivalents of citric acid and six molar equivalents of tri(n-butyl)amine in MeCN. Compound 1 was characterized by elemental analyses (C,H,N), solid-state 29Si VACP/MAS NMR studies, solution NMR expts. (1H, 13C; CD3CN), and a crystal structure anal.

CC 78-8 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 75, 77

IT **444084-58-6P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and crystal structure and hydrolysis of)

IT **444084-58-6P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and crystal structure and hydrolysis of)

RN 444084-58-6 CAPLUS

CN Silicate(4-), bis[2-(hydroxy-κO)-1,2,3-propanetricarboxylato(4-)-κO1,κO2]-, (OC-6-22')-, tetrahydrogen, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

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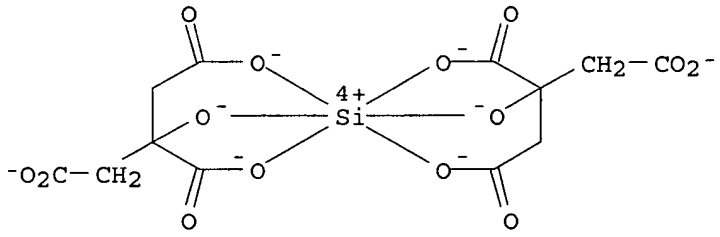

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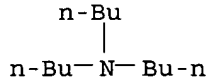


REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:692910 CAPLUS
DOCUMENT NUMBER: 134:33400
TITLE: Neutral Alkoxysilanes from Silica

AUTHOR(S): Cheng, Hengqin; Tamaki, Ryo; Laine, Richard M.; Babonneau, Florence; Chujo, Yoshiki; Treadwell, David R.

CORPORATE SOURCE: Departments of Chemistry and Materials Science and Engineering Macromolecular Science and Engineering Center, The University of Michigan, Ann Arbor, MI, 48109-2136, USA

SOURCE: Journal of the American Chemical Society (2000), 122(41), 10063-10072
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Oct 2000

AB Silica (SiO2) is found to react readily with ethylene glycol (EGH2) to form neutral glycoxysilanes in the presence of catalytic amts. of high-boiling organic amines, such as triethylenetetramine (TETA), trishydroxymethyleneaminomethane [H2NC(CH2OH)3, THAMH3], and triethanolamine [N(CH2CH2OH)3, TEAH3]. Kinetic studies show that these amines offer similar catalytic efficiencies although their pKb values differ by 3 orders of magnitude. In addition, silica dissoln. is found to be pseudo-zero order in silica. These kinetic data can be explained by a rate-limiting step involving release of free base from an intermediate pentacoordinated silicate coincident with the formation of a tetraalkoxysilane. The products from these reactions were characterized by 1H, 13C, and 29Si solution and solid-state NMR, thermal gravimetric anal., and mass spectroscopy. Depending on the type and amount of base used, different products form: either neutral tetraalkoxysilanes, such as Si(OCH2CH2OH)4 and its soluble oligomers, or neutral pentacoordinate silanes, such as N(CH2CH2O)3SiOCH2CH2OH and H3N+C(CH2O)3Si-(OCH2CH2O). Comparative studies demonstrate that Group I metal hydroxides also catalyze silica dissoln. in ethylene glycol with better catalytic efficiencies than the amine bases. The products of silica dissoln. using Group I metal hydroxide catalysts were also identified by 29Si solution NMR and mass spectroscopy and found to consist primarily of Si(OCH2CH2OH)4 and its oligomeric derivs.

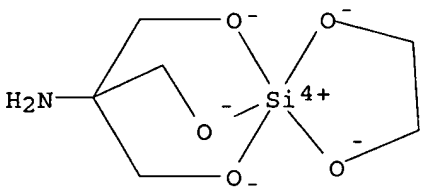
CC 67-3 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)

IT 17622-94-5P 312520-41-5P **312520-42-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(neutral alkoxysilanes from silica)

IT **312520-42-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(neutral alkoxysilanes from silica)

RN 312520-42-6 CAPLUS

CN Silicate(1-), [2-amino-2-[(hydroxy-κO)methyl]-1,3-propanediolato(3-)-κO,κO'][1,2-ethanediolato(2-)-κO,κO']-, hydrogen (9CI) (CA INDEX NAME)



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

Text search and Registry number search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=> d his ful

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                 D
                 E SILICA/CN
L2               1 SEA ABB=ON  PLU=ON  SILICA/CN
                 D
                 E GLYCEROL/CN
L3               1 SEA ABB=ON  PLU=ON  GLYCEROL/CN
                 D
                 E TMOS/CN
L4               1 SEA ABB=ON  PLU=ON  TMOS/CN
                 D SCAN
                 E TEOS/CN
L5               1 SEA ABB=ON  PLU=ON  TEOS/CN
                 D SCAN

     FILE 'CAPLUS' ENTERED AT 13:44:11 ON 24 AUG 2006

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L7            2833 SEA ABB=ON  PLU=ON  L1/D
L8           68416 SEA ABB=ON  PLU=ON  L3
L9            6624 SEA ABB=ON  PLU=ON  L3/D
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                   SILANE#/OBI
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L13          70430 SEA ABB=ON  PLU=ON  DIGLYCER!L#/OBI OR GLYCER!L#/OBI
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L15             17 SEA ABB=ON  PLU=ON  L9 (L) L12
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                 D SCAN
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L20             22 SEA ABB=ON  PLU=ON  L19 NOT L11
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L28         893651 SEA ABB=ON  PLU=ON  TRANSPORT/OBI OR SOL GEL/OBI OR MEMBRANE/OB
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L30             23 SEA ABB=ON  PLU=ON  L29 OR L24
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L34             23 SEA ABB=ON  PLU=ON  L33 OR L30
L35           1016 SEA ABB=ON  PLU=ON  BRENNAN J?/AU
L36            262 SEA ABB=ON  PLU=ON  BROOK M?/AU
L37             13 SEA ABB=ON  PLU=ON  BESANGER T?/AU
L38           1256 SEA ABB=ON  PLU=ON  (L35 OR L36 OR L37)
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L41           7 SEA ABB=ON  PLU=ON  L39 OR L40
L42           0 SEA ABB=ON  PLU=ON  L41 NOT (L11 OR L34)
L43         366 SEA ABB=ON  PLU=ON  DGS/BI
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                SILANE#/OBI
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L48       33328 SEA ABB=ON  PLU=ON  DIGLYCER!L# OR GLYCER!L#
L49         162 SEA ABB=ON  PLU=ON  L47 (S) L48
L50      316972 SEA ABB=ON  PLU=ON  TRANSPORT?
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L58         262 SEA ABB=ON  PLU=ON  BRENNAN J?/AU
L59          40 SEA ABB=ON  PLU=ON  BROOK M?/AU
L60           1 SEA ABB=ON  PLU=ON  BESANGER T?/AU
L61         299 SEA ABB=ON  PLU=ON  (L58 OR L59 OR L60)
L62           6 SEA ABB=ON  PLU=ON  L61 AND (L47 AND L48)
L63           1 SEA ABB=ON  PLU=ON  L62 NOT (L46 OR L57)
L64          40 DUP REM L11 L34 L46 L57 (4 DUPLICATES REMOVED)
                    ANSWERS '1-26' FROM FILE CAPLUS
                    ANSWERS '27-40' FROM FILE WPIX
L65           1 DUP REM L42 L63 (0 DUPLICATES REMOVED)
                    ANSWER '1' FROM FILE WPIX
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=> fil reg
FILE 'REGISTRY' ENTERED AT 14:10:47 ON 24 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   23 AUG 2006  HIGHEST RN 904004-64-4
DICTIONARY FILE UPDATES:  23 AUG 2006  HIGHEST RN 904004-64-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> d que l1;d l1
L1             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  SILANE/CN



L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   7803-62-5  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Silane (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Flots 100SCO
CN   Monosilane (SiH4)
CN   Silicane
CN   Silicon hydride
CN   Silicon hydride (SiH4)
CN   Silicon tetrahydride
FS   3D CONCORD
MF   H4 Si
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS,
       CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB,
       DETHERM*, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE,
       MRCK*, MSDS-OHS, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA,
       USPAT2, USPATFULL, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

SiH_4

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

22105 REFERENCES IN FILE CA (1907 TO DATE)
2833 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
22147 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d que l2; d l2
L2 1 SEA FILE=REGISTRY ABB=ON PLU=ON SILICA/CN

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 7631-86-9 REGISTRY
ED Entered STN: 16 Nov 1984
CN **Silica (6CI, 7CI, 8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN 1135MP
CN 1165MP
CN 165MPJ
CN 175GR
CN 255S
CN 300CF
CN 30R50
CN 30R7
CN 3K
CN 3KS
CN 400G
CN 400WQ
CN 5085HSD30
CN 5085SD30
CN 5X
CN 7000GR
CN 937L
CN 940UP
CN 955W
CN 980H
CN A 150
CN A 175
CN A 200
CN A 300
CN A 380
CN Acematt HK 400
CN Acematt TS 100
CN Acrifix 122
CN Acticel
CN Adelite 20N
CN Adelite 30
CN Adelite A
CN Adelite AD 321
CN Adelite AT
CN Adelite AT 20
CN Adelite AT 2045
CN Adelite AT 20A
CN Adelite AT 20N
CN Adelite AT 20Q
CN Adelite AT 20S

CN Adelite AT 30
CN Adelite AT 30A
CN Adelite AT 30B
CN Adelite AT 30S
CN Adelite AT 40
CN Adelite AT 50
CN Adelite BT 55
CN Adelite BT 59
CN Adelite CT 100
CN Adelite CT 300
CN **Snowtex NPC-ST**
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
FS 3D CONCORD
DR 11139-72-3, 11139-73-4, 12125-13-2, 12737-36-9, 12753-63-8, 12765-74-1, 12774-28-6, 9049-77-8, 171264-18-9, 1340-09-6, 172306-09-1, 173299-41-7, 127689-16-1, 127831-27-0, 126879-14-9, 126879-30-9, 126879-49-0, 53468-64-7, 125623-17-8, 56645-27-3, 56731-06-7, 122985-48-2, 55599-33-2, 60572-11-4, 62655-73-6, 97343-62-9, 97709-14-3, 98226-40-5, 98253-25-9, 67167-16-2, 113384-41-1, 50813-13-3, 50926-93-7, 50935-83-6, 51542-57-5, 51542-58-6, 61673-46-9, 108727-71-5, 136303-13-4, 136881-80-6, 37220-24-9, 37241-25-1, 37334-65-9, 37340-45-7, 37380-93-1, 138860-82-9, 139074-73-0, 137263-03-7, 145537-54-8, 145686-91-5, 145808-77-1, 70536-23-1, 70536-61-7, 70563-35-8, 78207-17-7, 146585-72-0, 152206-35-4, 152787-33-2, 155552-25-3, 155575-05-6, 83589-56-4, 83652-92-0, 149779-02-2, 87501-59-5, 89493-21-0, 39336-66-8, 39372-58-2, 39409-25-1, 39443-40-8, 39456-81-0, 52350-43-3, 107497-59-6, 179046-03-8, 184654-53-3, 185461-90-9, 188357-77-9, 191289-29-9, 203526-86-7, 206770-31-2, 207868-97-1, 217643-58-8, 231629-15-5, 247900-77-2, 250579-70-5, 250579-78-3, 264907-28-0, 330152-64-2, 341028-71-5, 368432-40-0, 402735-49-3, 402828-37-9, 402828-39-1, 402828-40-4
MF O2 Si
CI COM
SR CA
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

O=Si=O

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

359381 REFERENCES IN FILE CA (1907 TO DATE)
7558 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
360461 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d que l3; d l3
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON GLYCEROL/CN

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 56-81-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propanol, 1,3-dihydroxy- (4CI)
CN **Glycerol (8CI)**
CN Propanetriol (7CI)
OTHER NAMES:
CN 1,2,3-Trihydroxypropane
CN Bulbold
CN Cristal
CN DG
CN E 422
CN Emery 916
CN Emery 917
CN Glyceol Opthalgan
CN Glycerin
CN Glycerine
CN Glyceritol
CN Glycyl alcohol
CN Glyrol
CN Glysanin
CN IFP
CN Incorporation factor
CN Mackstat H 66
CN NSC 9230
CN Osmoglyn
CN Pricerine 9088
CN Pricerine 9091
CN RG-S
CN Trihydroxypropane
CN Tryhydroxypropane
AR 30918-77-5
FS 3D CONCORD
DR 8013-25-0, 37228-54-9, 75398-78-6, 78630-16-7, 29796-42-7, 30049-52-6
MF C3 H8 O3
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PATDPASPC, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
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Other Sources: DSL**, EINECS**, TSCA**, WHO
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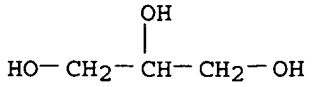

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68088 REFERENCES IN FILE CA (1907 TO DATE)
6614 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
68416 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d que l4;d l4
L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON TMOS/CN

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 681-84-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Silicic acid (H4SiO4), tetramethyl ester (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methyl silicate ((MeO)4Si) (6CI)
OTHER NAMES:
CN Dynasil M
CN KBM 04
CN LS 540
CN Methyl orthosilicate
CN Methyl silicate
CN Methyl silicate ((CH3)4SiO4)
CN Methyl Silicate 28
CN Methyl Silicate 39
CN NSC 67383
CN OCD-T 2
CN Silane, tetramethoxy-
CN Silicon methoxide (Si(OMe)4)
CN Silicon tetramethoxide
CN Siluplex
CN SIT 7510.0
CN T 1980
CN Tetramethoxysilane
CN Tetramethyl orthosilicate
CN Tetramethyl silicate
CN **TMOS**
CN TSL 8114
FS 3D CONCORD
DR 12547-31-8
MF C4 H12 O4 Si
CI COM
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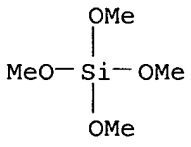
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5214 REFERENCES IN FILE CA (1907 TO DATE)
387 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5227 REFERENCES IN FILE CAPLUS (1907 TO DATE)
98 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d que l5; d l5
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON TEOS/CN

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 78-10-4 REGISTRY
ED Entered STN: 16 Nov 1984
CN Silicic acid (H4SiO4), tetraethyl ester (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethyl silicate ((EtO)4Si) (6CI)
OTHER NAMES:
CN Colcoat 6P
CN Conservare OH
CN Dynasil A
CN ES 100
CN ES 100 (silicate)
CN ES 140
CN ES 28
CN ES 28 (ester)
CN ES 28P
CN ES 45
CN Ethyl orthosilicate
CN Ethyl silicate 28
CN Ethyl Silicate 45
CN KBE 04
CN KBM 06
CN LS 2340
CN LS 2430
CN NSC 4790
CN PETEOS
CN Remmers 300
CN SI 42
CN Silane, tetraethoxy-
CN Silicon ethoxide
CN Silicon ethoxide (Si(OEt)4)
CN Silicon tetraethoxide
CN Silicon tetraethoxide (Si(OC2H5)4)
CN Silicon tetraethoxide (Si(OEt)4)
CN Silikan L
CN T 0100
CN T 0100 (ester)
CN T 1807
CN **TEOS**
CN TES 28
CN Tetraethoxysilane
CN Tetraethoxysilicon
CN Tetraethoxysilicon(IV)
CN Tetraethyl orthosilicate

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CN   Tetraethyl silicate
CN   TSL 8124
CN   Unisilan 74
FS   3D CONCORD
MF   C8 H20 O4 Si
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM,
       CSNB, DETHERM*, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,
       MRCK*, MSDS-OHS, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA,
       ULIDAT, USPAT2, USPATFULL, VTB
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     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
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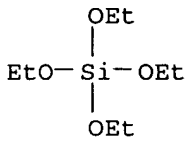

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

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           1348 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
          21933 REFERENCES IN FILE CAPLUS (1907 TO DATE)
            216 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> fil caplus wpix
FILE 'CAPLUS' ENTERED AT 14:11:34 ON 24 AUG 2006
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FILE 'WPIX' ENTERED AT 14:11:34 ON 24 AUG 2006
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=> d que l64
L1             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  SILANE/CN
L3             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  GLYCEROL/CN
L4             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  TMOS/CN
L5             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  TEOS/CN
L6         22147 SEA FILE=CAPLUS ABB=ON  PLU=ON  L1
L7          2833 SEA FILE=CAPLUS ABB=ON  PLU=ON  L1/D
L8         68416 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3
L9          6624 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3/D
L10        25465 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L4 OR L5)
L11            3 SEA FILE=CAPLUS ABB=ON  PLU=ON  DIGLYCER!LSILANE#/OBI OR
                 DIGLYCER!L SILANE#/OBI
L12        80288 SEA FILE=CAPLUS ABB=ON  PLU=ON  SILANE#/OBI
L13        70430 SEA FILE=CAPLUS ABB=ON  PLU=ON  DIGLYCER!L#/OBI OR GLYCER!L#/OB
                 I
L14           10 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 (L) L13
L15           17 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 (L) L12
L16           22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L14 OR L15
L17           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L16 NOT L11
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L18           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 AND L8 AND L10
L19          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L17 OR L18
L20          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L19 NOT L11
L21          15 SEA FILE=CAPLUS ABB=ON  PLU=ON  (DIGLYCER!LSILANE# OR DIGLYCER!
                L SILANE#)/AB
L22           9 SEA FILE=CAPLUS ABB=ON  PLU=ON  L21 AND (L6 OR L8)
L23          24 SEA FILE=CAPLUS ABB=ON  PLU=ON  L22 OR L20
L24          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L23 NOT L11
L26          21 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 AND L9
L27          18 SEA FILE=CAPLUS ABB=ON  PLU=ON  L26 NOT (L11 OR L24)
L28      893651 SEA FILE=CAPLUS ABB=ON  PLU=ON  TRANSPORT/OBI OR SOL GEL/OBI
                OR MEMBRANE/OBI
L29           1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L27 AND L28
L30          23 SEA FILE=CAPLUS ABB=ON  PLU=ON  L29 OR L24
L31         595 SEA FILE=CAPLUS ABB=ON  PLU=ON  L12 (L) SOL GEL/OBI
L32          18 SEA FILE=CAPLUS ABB=ON  PLU=ON  L31 (L) MEMBRANE#/OBI
L33           1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L32 AND IMMOBIL?/OBI
L34          23 SEA FILE=CAPLUS ABB=ON  PLU=ON  L33 OR L30
L46           5 SEA FILE=WPIX ABB=ON  PLU=ON  DIGLYCER!LSILANE#/OBI OR
                DIGLYCER!L SILANE#/OBI
L47       46888 SEA FILE=WPIX ABB=ON  PLU=ON  SILANE#
L48       33328 SEA FILE=WPIX ABB=ON  PLU=ON  DIGLYCER!L# OR GLYCER!L#
L49         162 SEA FILE=WPIX ABB=ON  PLU=ON  L47 (S) L48
L50      316972 SEA FILE=WPIX ABB=ON  PLU=ON  TRANSPORT?
L51      151086 SEA FILE=WPIX ABB=ON  PLU=ON  MEMBRANE#
L52        5024 SEA FILE=WPIX ABB=ON  PLU=ON  SOL GEL
L53           6 SEA FILE=WPIX ABB=ON  PLU=ON  L49 AND L52
L54          10 SEA FILE=WPIX ABB=ON  PLU=ON  L49 AND L51
L55           2 SEA FILE=WPIX ABB=ON  PLU=ON  L50 AND L49
L56          16 SEA FILE=WPIX ABB=ON  PLU=ON  (L53 OR L54 OR L55)
L57          13 SEA FILE=WPIX ABB=ON  PLU=ON  L56 NOT L46
L64          40 DUP REM L11 L34 L46 L57 (4 DUPLICATES REMOVED)
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Inverter search

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=> d que l65
L1            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  SILANE/CN
L3            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  GLYCEROL/CN
L4            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  TMOS/CN
L5            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  TEOS/CN
L6        22147 SEA FILE=CAPLUS ABB=ON  PLU=ON  L1
L7         2833 SEA FILE=CAPLUS ABB=ON  PLU=ON  L1/D
L8        68416 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3
L9         6624 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3/D
L10       25465 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L4 OR L5)
L11           3 SEA FILE=CAPLUS ABB=ON  PLU=ON  DIGLYCER!LSILANE#/OBI OR
                DIGLYCER!L SILANE#/OBI
L12       80288 SEA FILE=CAPLUS ABB=ON  PLU=ON  SILANE#/OBI
L13       70430 SEA FILE=CAPLUS ABB=ON  PLU=ON  DIGLYCER!L#/OBI OR GLYCER!L#/OB
                I
L14          10 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 (L) L13
L15          17 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 (L) L12
L16          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L14 OR L15
L17          19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L16 NOT L11
L18           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 AND L8 AND L10
L19          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L17 OR L18
L20          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L19 NOT L11
L21          15 SEA FILE=CAPLUS ABB=ON  PLU=ON  (DIGLYCER!LSILANE# OR DIGLYCER!
                L SILANE#)/AB
L22           9 SEA FILE=CAPLUS ABB=ON  PLU=ON  L21 AND (L6 OR L8)
L23          24 SEA FILE=CAPLUS ABB=ON  PLU=ON  L22 OR L20
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L24          22 SEA FILE=CAPLUS ABB=ON  PLU=ON  L23 NOT L11
L26          21 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 AND L9
L27          18 SEA FILE=CAPLUS ABB=ON  PLU=ON  L26 NOT (L11 OR L24)
L28      893651 SEA FILE=CAPLUS ABB=ON  PLU=ON  TRANSPORT/OBI OR SOL GEL/OBI
                OR MEMBRANE/OBI
L29          1  SEA FILE=CAPLUS ABB=ON  PLU=ON  L27 AND L28
L30          23 SEA FILE=CAPLUS ABB=ON  PLU=ON  L29 OR L24
L31         595 SEA FILE=CAPLUS ABB=ON  PLU=ON  L12 (L) SOL GEL/OBI
L32          18 SEA FILE=CAPLUS ABB=ON  PLU=ON  L31 (L) MEMBRANE#/OBI
L33          1  SEA FILE=CAPLUS ABB=ON  PLU=ON  L32 AND IMMOBIL?/OBI
L34          23 SEA FILE=CAPLUS ABB=ON  PLU=ON  L33 OR L30
L35        1016 SEA FILE=CAPLUS ABB=ON  PLU=ON  BRENNAN J?/AU
L36         262 SEA FILE=CAPLUS ABB=ON  PLU=ON  BROOK M?/AU
L37          13 SEA FILE=CAPLUS ABB=ON  PLU=ON  BESANGER T?/AU
L38        1256 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L35 OR L36 OR L37)
L39           7 SEA FILE=CAPLUS ABB=ON  PLU=ON  L38 AND ( L6 AND L8)
L40           1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L39 AND L10
L41           7 SEA FILE=CAPLUS ABB=ON  PLU=ON  L39 OR L40
L42           0 SEA FILE=CAPLUS ABB=ON  PLU=ON  L41 NOT (L11 OR L34)
L46           5 SEA FILE=WPIX ABB=ON  PLU=ON  DIGLYCER!LSILANE#/OBI OR
                DIGLYCER!L SILANE#/OBI
L47       46888 SEA FILE=WPIX ABB=ON  PLU=ON  SILANE#
L48       33328 SEA FILE=WPIX ABB=ON  PLU=ON  DIGLYCER!L# OR GLYCER!L#
L49         162 SEA FILE=WPIX ABB=ON  PLU=ON  L47 (S) L48
L50      316972 SEA FILE=WPIX ABB=ON  PLU=ON  TRANSPORT?
L51      151086 SEA FILE=WPIX ABB=ON  PLU=ON  MEMBRANE#
L52        5024 SEA FILE=WPIX ABB=ON  PLU=ON  SOL GEL
L53           6 SEA FILE=WPIX ABB=ON  PLU=ON  L49 AND L52
L54          10 SEA FILE=WPIX ABB=ON  PLU=ON  L49 AND L51
L55           2 SEA FILE=WPIX ABB=ON  PLU=ON  L50 AND L49
L56          16 SEA FILE=WPIX ABB=ON  PLU=ON  (L53 OR L54 OR L55)
L57          13 SEA FILE=WPIX ABB=ON  PLU=ON  L56 NOT L46
L58         262 SEA FILE=WPIX ABB=ON  PLU=ON  BRENNAN J?/AU
L59          40 SEA FILE=WPIX ABB=ON  PLU=ON  BROOK M?/AU
L60           1 SEA FILE=WPIX ABB=ON  PLU=ON  BESANGER T?/AU
L61         299 SEA FILE=WPIX ABB=ON  PLU=ON  (L58 OR L59 OR L60)
L62           6 SEA FILE=WPIX ABB=ON  PLU=ON  L61 AND (L47 AND L48)
L63           1 SEA FILE=WPIX ABB=ON  PLU=ON  L62 NOT (L46 OR L57)
L65           1 DUP REM L42 L63 (0 DUPLICATES REMOVED)


=> d .ca l64 1-26; d ibib ab l64 27-40; d ibib ab l65 1

L64  ANSWER 1 OF 40  CAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2005:962405  CAPLUS
DOCUMENT NUMBER:          143:261346
TITLE:                    Immobilization of nucleic acid aptamers by sol-gel
                          entrapment for use in analytical and microarray
                          systems
INVENTOR(S):              Rupcich, Nicholas; Nutiu, Razvan; Brennan, John D.;
                          Li, Yingfu
PATENT ASSIGNEE(S):       McMaster University, Can.
SOURCE:                   PCT Int. Appl., 68 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.        DATE
```

WO 2005080592	A1	20050901	WO 2005-CA223	20050221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2006068407	A1	20060330	US 2005-61775	20050222
PRIORITY APPLN. INFO.:			US 2004-545525P	P 20040219

ED Entered STN: 02 Sep 2005

AB The present invention provides a new class of biol. microarrays based on the entrapment of an engineered structure-switching DNA aptamer within a pin-printed sol-gel microarray. A fluorescent signaling aptamer system is built using either a tripartite or bipartite construct. The tripartite construct contains three short DNA oligonucleotides: one modified with a fluorophore (FDNA); one labeled with a quencher (QDNA); and the third a DNA aptamer made of a biotinylated adenosine-binding element, an FDNA-binding sequence, and a few nucleotides in between. In the bipartite construct, the fluorophore is covalently tethered to the aptamer rather than bound to a short complementary DNA strand. In the absence of the target, the DNA mols. are assembled into a tripartite or bipartite duplex structure leading to efficient fluorescence quenching. When the target (ATP) is present, the aptamer prefers the target as its binding partner, resulting in the release of QDNA and subsequently a significant increase of fluorescence intensity. The tripartite and bipartite aptamer complexes, when bound to streptavidin, remain intact, show minimal leaching, and sustain activity, selectivity, and sensitivity to ATP concentration similar to that in solution when entrapped in sodium silicate or **diglyceryl silane** based glasses. The aptamers can also be immobilized in a pin-printed sol-gel microarray and still retain their characteristic properties, while immobilization of the tripartite aptamers directly onto neutravidin-coated slides cause the aptamer to be non-functional. This successful immobilization of DNA aptamers within sol-gel derived microarrays illustrates the power of sol-gel entrapment to concurrently immobilize a range of biol. samples, and that metabolomics screening tools can be developed around this technol.

IC ICM C12Q001-68
ICS C07H021-00; C12N015-10

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9

IT **56-81-5D**, Glycerol, reaction products with **silane**
1344-09-8 **7803-62-5D**, Silane, reaction products with **glycerol**
RL: DEV (Device component use); USES (Uses)
(sol-gel system; immobilization of nucleic acid aptamers by sol-gel entrapment for use in anal. and microarray systems)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 2 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:433905 CAPLUS
DOCUMENT NUMBER: 140:420385
TITLE: Method of immobilizing membrane-associated molecules

INVENTOR(S): Brennan, John D.; Brook, Michael A.; Besanger, Travis
PATENT ASSIGNEE(S): McMaster University, Can.
SOURCE: PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004044585	A1	20040527	WO 2003-CA1757	20031114
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2411827	AA	20040514	CA 2002-2411827	20021114
AU 2003301988	A1	20040603	AU 2003-301988	20031114
EP 1563305	A1	20050817	EP 2003-810928	20031114
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.:
CA 2002-2411827 A 20021114
US 2002-426018P P 20021114
WO 2003-CA1757 W 20031114

ED Entered STN: 28 May 2004
AB The present invention relates to methods of immobilizing membrane-associated mols. within a sol-gel matrix. The membrane-associated mol. is embedded in the bilayer of a liposome. The mol.-liposome assembly remains functionally intact when it is immobilized within a protein and membrane-compatible sol-gel derived from polyol silane precursors or sodium silicate.
IC ICM G01N033-543
CC 9-16 (Biochemical Methods)
IT 50-70-4, Sorbitol, analysis 50-70-4D, Sorbitol, reaction with silanes 56-81-5, Glycerol, analysis **56-81-5D**, Glycerol, reaction with **silanes** 69-79-4, Maltose 69-79-4D, Maltose, reaction with silanes, 7803-62-5D, Silane, reaction with carbohydrates 9004-54-0, Dextran, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(method of immobilizing membrane-associated mols.)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 3 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2004:387306 CAPLUS
DOCUMENT NUMBER: 140:388198
TITLE: Multicomponent protein microarrays
INVENTOR(S): Brennan, John D.; Rupcich, Nicholas
PATENT ASSIGNEE(S): Mcmaster University, Can.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039487	A1	20040513	WO 2003-CA1665	20031103
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2504208	AA	20040513	CA 2003-2504208	20031103
AU 2003280241	A1	20040525	AU 2003-280241	20031103
US 2005053954	A1	20050310	US 2003-698492	20031103
EP 1556162	A1	20050727	EP 2003-770810	20031103
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2002-422892P	P 20021101
			WO 2003-CA1665	W 20031103

ED Entered STN: 13 May 2004

AB The present invention involves a multicomponent protein microarray comprising two or more components of a protein-based system entrapped within spots of a biomol. compatible matrix arranged on a surface. Also included are methods of using the microarray for multicomponent anal. along with kits and machinery comprising the microarray.

IC ICM B01J019-00
ICS G01N033-552

CC 9-1 (Biochemical Methods)

IT 50-69-1, Ribose 50-70-4, Sorbitol, uses 50-70-4D, Sorbitol, silane derivs. 50-99-7, D-Glucose, uses 56-81-5, Glycerol, uses **56-81-5D**, Glycerol, **silane** derivs. 56-82-6, Glyceraldehyde 57-48-7, D-Fructose, uses 57-50-1, Sucrose, uses 58-86-6, Xylose, uses 59-23-4, D-Galactose, uses 63-42-3, Lactose 65-42-9, Lyxose 69-79-4, Maltose 69-79-4D, Maltose, silane derivs. 87-79-6, L-Sorbose 99-20-7, Trehalose 107-97-1, Sarcosine 147-81-9, Arabinose 528-50-7, Cellobiose 919-30-2, Aminopropyltriethoxysilane 1344-09-8, Sodium silicate 1758-51-6, Erythrose 2152-76-3, Idose 3458-28-4, D-Mannose 5987-68-8, Altrose 6038-51-3, Allose 9000-69-5, Pectin 9004-54-0, Dextran, uses 9004-54-0D, Dextran, silane derivs. 9005-82-7, Amylose 19163-87-2, Gulose 25322-68-3, Polyethylene glycol 29884-64-8, Threose 30077-17-9, Talose 37231-28-0, Melittin 498579-33-2
RL: DEV (Device component use); USES (Uses)
(multicomponent protein microarrays)

L64 ANSWER 4 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4

ACCESSION NUMBER: 2004:182798 CAPLUS
DOCUMENT NUMBER: 140:236723
TITLE: Methods and compounds for controlling the morphology and shrinkage of silica derived from polyol-modified silanes for preparing biomolecule-compatible siliceous materials for chromatography supports, biosensors, etc.
INVENTOR(S): Zhang, Zheng; Brennan, John D.; Brook, Michael A.; Chen, Yang
PATENT ASSIGNEE(S): McMaster University, Can.

SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018360	A1	20040304	WO 2003-CA1257	20030825
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2496736	AA	20040304	CA 2003-2496736	20030825
AU 2003258414	A1	20040311	AU 2003-258414	20030825
US 2004211730	A1	20041028	US 2003-647174	20030825
EP 1542926	A1	20050622	EP 2003-792064	20030825
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005536625	T2	20051202	JP 2005-501196	20030825
US 2004249082	A1	20041209	US 2004-814123	20040401

PRIORITY APPLN. INFO.:

US 2002-405308P	P	20020823
US 2002-405309P	P	20020823
US 2003-484298P	P	20030703
WO 2003-CA1257	W	20030825

ED Entered STN: 05 Mar 2004

AB Siliceous materials are prepared by adding one or more additives, including water soluble polymers, and derivs. thereof, to sols containing tetraalkoxysilanes derived from polyols. The polymers facilitate phase separation of the growing silica gel matrix, leading to high surface area self-supporting silica gels with cure occurring at ambient temps. The materials also show a significant reduction in shrinkage properties.

IC ICM C01B033-16
ICS C07F007-04; A61K047-48; B01D015-08; G01N030-48

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 9

IT 50-69-1D, Ribose, silane derivs. 50-70-4D, Sorbitol, silane derivs. 50-99-7D, D-Glucose, silane derivs. **56-81-5D**, Glycerol, **silane** derivs. 56-82-6D, Glyceraldehyde, compds., silane derivs. 57-48-7D, Fructose, silane derivs. 57-50-1D, Sucrose, silane derivs. 57-55-6D, Propylene glycol, silane derivs. 58-86-6D, Xylose, silane derivs. 59-23-4D, Galactose, silane derivs. 63-42-3D, Lactose, silane derivs. 65-42-9D, Lyxose, silane derivs. 69-79-4D, Maltose, silane derivs. 87-79-6D, L-Sorbose, silane derivs. 99-20-7D, Trehalose, silane derivs. 147-81-9D, Arabinose, silane derivs. 504-63-2D, Trimethylene glycol, silane derivs. 528-50-7D, Cellobiose, silane derivs. 1758-51-6D, Erythrose, silane derivs. 2152-76-3D, Idose, silane derivs. 3458-28-4D, Mannose, silane derivs. 5987-68-8D, Altrose, silane derivs. 6038-51-3D, Allose, silane derivs. 9000-69-5D, Pectin, silane derivs. 9002-89-5, Polyvinyl alcohol 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide 9003-47-8, Poly(vinylpyridine) 9004-54-0D, Dextran, silane derivs. 9005-82-7D, Amylose, silane derivs. 9046-10-0, Polypropylene glycol

bis(2-aminopropyl ether) 19163-87-2D, Gulose, silane derivs. 25189-55-3, Poly(N-isopropylacrylamide) 25322-68-3, Polyethylene oxide 25322-68-3D, Polyethylene glycol, amino-terminated 25322-69-4, Polypropylene glycol 29884-64-8D, Threose, silane derivs. 30077-17-9D, Talose, silane derivs. 30551-89-4, Polyallylamine
RL: MOA (Modifier or additive use); USES (Uses)
(as additive in siliceous material preparation; methods and compds. for controlling morphol. and shrinkage of silica derived from polyol-modified **silanes** for preparing biomol.-compatible siliceous materials for chromatog. supports, biosensors, etc.)

IT **7803-62-5D**, Silane, reaction products with **glycerol** /sorbitol/maltose
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis and condensation of; methods and compds. for controlling morphol. and shrinkage of silica derived from polyol-modified silanes for preparing biomol.-compatible siliceous materials for chromatog. supports, biosensors, etc.)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 5 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:656300 CAPLUS
DOCUMENT NUMBER: 145:125552
TITLE: Optoelectronic molding compound that transmits visible light and blocks infrared light
INVENTOR(S): Starkey, Dale R.
PATENT ASSIGNEE(S): Henkel Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006147718	A1	20060706	US 2004-27909	20041230
WO 2006073608	A1	20060713	WO 2005-US42697	20051123

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-27909 A 20041230
ED Entered STN: 07 Jul 2006
AB A molding compound for use in encapsulating electronic packages which include an optoelectronic component, such as an LED or optical sensor. The molding compound includes a partially-cured epoxy composition, a linear polyol, a dye that absorbs in the region of above 700 nm to about 1200 nm and substantially transmits light from about 400 nm to about 700 nm, and an optional antioxidant material substantially uniformly distributed throughout the epoxy composition The dye can be dissolved within the epoxy composition by heating a portion of the epoxy composition prior to B-staging of the

molding compound The cured epoxy composition has at least 40% transmittance at 600 nm, less than 10% transmittance at 900 nm, less than 10% transmittance at 1100 nm. Thus, a titled material was prepared by mixing hexahydrophthalic anhydride, triglycidyl isocyanurate, stearic acid, SDA8817 dye, Z-6040 epoxy silane, Z-6062 mercapto silane, neopentyl glycol, and zinc octoate; pouring into trays and B-staged and then transferred molded; and curing at 150°.

INCL 428413000; 523400000; 523440000; 525533000; 252587000

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 41, 73

IT **56-81-5DP**, Glycerin, derivative in presence of anhydride, epoxy resin, stearic acid, and **silanes** 57-11-4DP, Stearic acid, derivative with epoxy resins 57-55-6DP, Propylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 85-42-7DP, Hexahydrophthalic anhydride, cured product in presence of epoxy resin, stearic acid, polyol, and silanes 107-21-1DP, Ethylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 111-46-6DP, Diethylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 112-27-6DP, Triethylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 126-30-7DP, Neopentyl glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 2451-62-9DP, Triglycidyl isocyanurate, cured product in presence of anhydride, stearic acid, polyol, and silanes 2530-83-8DP, Z 6040, derivative in presence of anhydride, epoxy resin, stearic acid, and polyol 2589-01-7DP, cured product in presence of anhydride, stearic acid, polyol, and silanes 4420-74-0DP, Z 6062, derivative in presence of anhydride, epoxy resin, stearic acid, and polyol 7176-19-4DP, cured product in presence of anhydride, stearic acid, polyol, and silanes 24800-44-0DP, Tripropylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 25265-71-8DP, Dipropylene glycol, derivative in presence of anhydride, epoxy resin, stearic acid, and silanes 25550-51-0DP, Methylhexahydrophthalic anhydride, cured product in presence of epoxy resin, stearic acid, polyol, and silanes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optoelectronic molding compound that transmits visible light and blocks IR light)

L64 ANSWER 6 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:122726 CAPLUS
DOCUMENT NUMBER: 142:191642
TITLE: Method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays
INVENTOR(S): Brennan, John D.; Brook, Michael A.; Besanger, Travis
PATENT ASSIGNEE(S): McMaster University, Can.
SOURCE: U.S. Pat. Appl. Publ., 48 pp., Cont.-in-part of U.S. Ser. No. 712,015.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2005032246	A1	20050210	US 2004-815727		20040402
US 2004166592	A1	20040826	US 2003-712015		20031114
PRIORITY APPLN. INFO.:			US 2002-426018P	P	20021114
			US 2003-712015	A2	20031114

ED Entered STN: 11 Feb 2005
AB The present invention relates to methods of immobilizing membrane-associated mols. within a sol-gel matrix. The membrane-associated mol. is embedded in the bilayer of a liposome. The mol.-liposome assembly remains functionally intact when it is immobilized within a protein and membrane-compatible sol-gel derived from polyol silane precursors or sodium silicate. The activity and stability of the entrapped membrane-associated mol. was significantly improved in macroporous silica. A method for the detection of modulators of a membrane-associated mol. using the immobilized mols. is claimed, as is an improved method for the detection of membrane potentials in a sol-gel entrapped liposome assembly comprising an ion-channel mol. A kit, biosensor, microarray, chromatog. or bioaffinity column comprising the protein- and membrane-compatible sol-gel with a liposome-assembly immobilized therein is addnl. claimed. Also claimed is a method of conducting target discovery using an assay system and the immobilized membrane associated mols.
IC ICM A61L002-00
ICS G01N033-543; C12P021-06
INCL 436518000; 427002110
CC 2-1 (Mammalian Hormones)
Section cross-reference(s): 1
ST membrane assocd protein ionophore **immobilization** liposome sol gel matrix; drug screening **immobilized** membrane assocd protein ionophore
IT Dopamine receptors
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(D2; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Animal cell line
(IMR-32, entrapped IMR-32 nAChR liposomes; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Acids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Polyacids as additives to cause phase transition before gelation; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT **Silanes**
RL: RCT (Reactant); RACT (Reactant or reagent)
(Polyol **silanes** as **sol-gel** precursor; method of **immobilizing membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel** -derived matrix and use in assays)
IT Membrane potential
(biol., detection of membrane potential of entrapped mol.; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Biological transport
(calcium, by entrapped channels; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT **Silanes**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dextran-based, as organic-polyol **silane** precursor; method of **immobilizing membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel**

-derived matrix and use in assays)
IT Torpedo californica
(entrapped Torpedo californica nAChR; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Sphingomyelins
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in preparation of liposomes; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Fluorescent substances
(indicator in screening assay; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Biological transport
(ion, by entrapped channels; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Phospholipids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome component; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Affinity chromatographic stationary phases
Biosensors
Drug screening
Drug targets
Fluorometry
Human
Ionophores
Liposomes
Liquid chromatographic stationary phases
Nicotinic agonists
Nicotinic antagonists
Protein microarray technology
Radiochemical analysis
Test kits
(method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Bacteriorhodopsins
Channel receptors
Cholinergic receptors
Enzymes, biological studies
G protein-coupled receptors
Ion channel
Nicotinic receptors
Transport proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT Polyoxyalkylenes, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(method of **immobilizing** membrane-associated proteins or

ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT Carbohydrates, reactions
Oligosaccharides, reactions
Polysaccharides, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(organic-polyol **silane** precursor; method of **immobilizing membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel**-derived matrix and use in assays)

IT Alcohols, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(polyhydric, as additives to cause phase transition before gelation; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT Biological transport
(potassium, by entrapped channels; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT Carbohydrates, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sugar acids and alcs. as organic-polyol **silane** precursor; method of **immobilizing membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel**-derived matrix and use in assays)

IT Polymers, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(water-soluble, as additives to cause phase transition before gelation; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT 9003-05-8 9003-47-8, Poly(vinylpyridine) 25189-55-3 25322-68-3, Polyethylene glycol 25322-68-3D, Polyethylene oxide, amino terminated 25322-69-4, Polypropylene glycol 25322-69-4D, Polypropylene glycol, amino terminated 30551-89-4, Polyallylamine
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(as additives to cause phase transition before gelation; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT 57-88-5, Cholesterol, biological studies
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in preparation of liposomes; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT 477-73-6, Safranine O 123632-39-3, Fluo-3
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(indicator in screening assay; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT 4235-95-4
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome component; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

IT 7631-86-9, Silica, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(matrix; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT 1405-97-6, Gramicidin 11029-61-1, Gramicidin A 56092-81-0, Ionomycin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT 56-81-5, Glycerol, biological studies
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(organic-polyol **silane** precursor; method of **immobilizing** **membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel**-derived matrix and use in assays)
IT 50-70-4, Sorbitol, reactions 69-79-4, Maltose **7803-62-5D**, **Silane**, **diglyceryl**/monosorbityl/monomaltosyl/dimaltosyl derivs. 9004-54-0, Dextran, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(organic-polyol **silane** precursor; method of **immobilizing** **membrane**-associated proteins or ionophore-liposome assemblies within a **sol-gel**-derived matrix and use in assays)
IT 1344-09-8, Sodium silicate
RL: RCT (Reactant); RACT (Reactant or reagent)
(sol-gel precursor; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)
IT 7440-09-7, Potassium, biological studies 7440-70-2, Calcium, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(transport, by entrapped channels; method of **immobilizing** membrane-associated proteins or ionophore-liposome assemblies within a sol-gel-derived matrix and use in assays)

L64 ANSWER 7 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:651482 CAPLUS
DOCUMENT NUMBER: 143:326955
TITLE: Reduced shrinkage of sol-gel derived silicas using sugar-based silsesquioxane precursors
AUTHOR(S): Chen, Yang; Zhang, Zheng; Sui, Xihua; Brennan, John D.; Brook, Michael A.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Journal of Materials Chemistry (2005), 15(30), 3132-3141
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Jul 2005
AB Monolithic siliceous materials were prepared, using sol-gel based methods, from mixts. of trifunctional silanes based on sugar lactones, including silyl-modified gluconamide GLS and maltonamide MLS, and a tetrafunctional silane derived from glycerol. The tri- and tetrafunctional compds. cured at different rates, which led to an enhanced presence of sugar moieties at the external surface of the pores in the monoliths. The resulting silicas exhibited dramatically reduced degrees of shrinkage (<10%) when compared to silica monoliths prepared in the absence of trifunctional silanes (up to

85%). The sugars also alter the morphol. of the material, with significant redns. in both micropore volume and surface area for materials containing GLS. The reduced shrinkage, presence of sugars on the silica surface, and altered morphol. are likely to be important factors in providing such materials with the ability to stabilize entrained proteins.
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 9
IT 56-81-5DP, Glycerol, silane derivs., reaction products with sugar-based silsesquioxane precursors 104275-58-3DP, reaction products with **diglycerylsilane** 656798-40-2DP, reaction products with **diglycerylsilane** 865089-06-1P 865089-07-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(reduced shrinkage of silicas prepared by sol-gel processing of gluconamide- and maltonamide-derived triethoxysilanes)
REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 8 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:683262 CAPLUS
DOCUMENT NUMBER: 143:298360
TITLE: Macroporous silica monoliths derived from glyceroxysilanes: Controlling gel formation and pore structure
AUTHOR(S): Zheng, Zhang; Chen, Yang; Hodgson, Richard J.; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Macromolecular Symposia (2005), 226(Polymer Chemistry, Reactions and Processes), 253-261
CODEN: MSYMEC; ISSN: 1022-1360
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 01 Aug 2005
AB **Diglycerylsilane** (DGS), a member of the family of sugar-based silanes, is converted into monolithic silica at low temps. and at mild pH. These materials are suitable for the entrapment of proteins under conditions that generally offer protection against denaturation, particularly when compared to analogous silicas prepared from tetraethoxysilane (TEOS). However, the resulting monoliths did not have sufficient porosity to permit flow and, thus, could not be utilized as monolithic chromatog. supports for frontal affinity chromatog. (FAC). It was demonstrated that poly(ethylene oxide) can be used to induce spinodal decomposition of the DGS-derived sol, prior to gelation, leading to a meso- and macroporous silica monolith after cure, as demonstrated by nitrogen sorption anal. High mol. weight PEO is required for effective phase separation to take place: below 10,000 MW, no such phase separation occurs under the conditions employed. The amount and mol. weight of PEO is critical to the timing of gelation. If too much PEO is present, or ionic strength is increased, gelation occurs before it is possible to fill the chromatog. column with the sol, while too little results in a lack of macropores. Proteins entrapped in this material are shown to be of comparable stability to those prepared in the absence of PEO, and can be used to chromatog. screen, with MS detection, potential drug candidates by changes in retention resulting from ligand binding.
CC 1-1 (Pharmacology)
Section cross-reference(s): 9, 78
IT **56-81-5D**, Glycerine, reaction products with **silane**

7803-62-5D, Silane, reaction products with **glycerol**
RL: RCT (Reactant); RACT (Reactant or reagent)
(PEG effects on gelation and pore structure of macroporous silica monoliths derived from glyceroxysilanes for protein immobilization for affinity chromatog. and drug screening)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 9 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:390366 CAPLUS
DOCUMENT NUMBER: 141:84619
TITLE: Ultrasensitive ATP Detection Using Firefly Luciferase Entrapped in Sugar-Modified Sol-Gel-Derived Silica
AUTHOR(S): Cruz-Aguado, Jorge A.; Chen, Yang; Zhang, Zheng; Elowe, Nadine H.; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Journal of the American Chemical Society (2004), 126(22), 6878-6879
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 May 2004
AB Firefly luciferase (FL) was entrapped in sol-gel-derived silica containing precursors based on covalent linkage of D-gluconolactone or D-maltonolactone to (aminopropyl)triethoxysilane to form N-(3-triethoxysilylpropyl)gluconamide or N-(3-triethoxysilylpropyl)maltonamide. The enzyme was active and stable in this material and showed catalytic consts. close to those in solution As little as 20 amol ATP could be detected with the entrapped FL, and the entrapped enzyme could be used over several cycles.
CC 7-7 (Enzymes)
Section cross-reference(s): 9
IT 78-10-4 1344-09-8, Sodium silicate **7803-62-5D**, Silane, reaction products with **glycerol** 80669-40-5
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); MSC (Miscellaneous); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ATP detection using firefly luciferase entrapped in sugar-modified Sol-gel-derived silica)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 10 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:480098 CAPLUS
DOCUMENT NUMBER: 141:180150
TITLE: Evaluating Formation and Growth Mechanisms of Silica Particles Using Fluorescence Anisotropy Decay Analysis
AUTHOR(S): Tleugabulova, Dina; Duft, Andy M.; Zhang, Zheng; Chen, Yang; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Langmuir (2004), 20(14), 5924-5932
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 15 Jun 2004
AB At present, there is no direct exptl. evidence that primary silica

particles, which exist only transiently for a few seconds during the Stoeber silica synthesis, can be stable in aqueous solns. In the present work, we show that primary silica particles are formed spontaneously after the dissoln. of diglycerylsilane (DGS) in aqueous solns. and remain stable for prolonged periods of time. By using time-resolved fluorescence anisotropy (TRFA), we demonstrate that this unique property of DGS is ascribed to the slow kinetics of silica particle growth in diluted sols at pH .apprx. 9.0. The anisotropy decay of the cationic dye rhodamine 6G (R6G), which strongly adsorbs to silica oligomers and nanoparticles in DGS sols, could be fit to three components: a fast (picosecond) scale component associated with free R6G, a slower (nanosecond) rotational component associated with R6G bound to primary silica particles, and a residual (nondecaying) anisotropy component associated with R6G that was bound to secondary or larger particles that were unable to rotate on the time scale of the R6G emission lifetime (4 ns). The data show that, under conditions where fast hydrolysis is obtained, the initial size of the nuclei depends on the silica concentration, with larger nuclei being present in more concentrated sols, while the rate of growth of primary particles depends on both silica concentration and solution pH.

At low silica concns. and high pHs, it was possible to observe the growth of stable, nonaggregating primary silica particles by a mechanism involving rapid nucleation followed by monomer addition The presence of stable primary particles was confirmed by atomic force microscopy (AFM) imaging. At higher silica concns. and lower pHs, there was an increase in the initial size of the nuclei formed, which subsequently grew to a larger radius (>4.5 nm) or aggregated with time, and in such cases, nucleation and aggregation occurred simultaneously in the early stage of silica formation. The data clearly show the power of time-resolved fluorescence anisotropy decay measurements for probing the growth of silica colloids and show that this method is useful for elucidating the mechanism of particle formation and growth in situ.

CC 66-6 (Surface Chemistry and Colloids)
Section cross-reference(s): 78

ST silica particle nanoparticle **diglycerylsilane** growth mechanism particle size

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 11 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:402471 CAPLUS
DOCUMENT NUMBER: 141:102213
TITLE: Entrapment of Src Protein Tyrosine Kinase in Sugar-Modified Silica
AUTHOR(S): Cruz-Aguado, Jorge A.; Chen, Yang; Zhang, Zheng; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Analytical Chemistry (2004), 76(14), 4182-4188
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 19 May 2004

AB A novel sugar-modified silica has been used to entrap for the first time a protein tyrosine kinase (PTK). Silane precursors bearing covalently attached gluconamide moieties were used in combination with the biocompatible precursor **diglycerylsilane** (DGS) to generate sol-gel derived silica that was able to encapsulate highly active Src PTK and preserve the activity of the enzyme over multiple uses. The relative activity of the enzyme was assayed using a LANCE based fluorescence

resonance energy transfer method involving time-gated detection of fluorescence from a europium labeled antiphosphotyrosine antibody and Cy5 labeled streptavidin upon mutual binding to biotinylated phosphopeptides. Using this detection method, with the antibody and streptavidin external to the sol-gel matrix, it was possible to detect the phosphorylation of peptides with mol. wts. of up to 2300 Da using the entrapped enzyme in N-(3-triethoxysilylpropyl)gluconamide (GLTES) doped glasses. Src kinase-doped glasses, derived from precursors such as tetra-Me orthosilicate, tetra-Et orthosilicate, or DGS that did not contain GLTES, provided no detectable enzyme activity. The addition of 1 mM ATP to the GLTES/DGS sol before the encapsulation of the protein increased the activity of the enzyme in the resulting gel, likely through a ligand-based stabilization mechanism. The use of such a system for determination of PTK activity and inhibition is demonstrated, setting the stage for the development of chromatog. and microarray based methods for the screening of kinase inhibitors.

CC 7-7 (Enzymes)
Section cross-reference(s): 9

IT **56-81-5D**, Glycerol, reaction products with **silanes**
78-10-4, TEOS **681-84-5**, TMOS **7803-62-5D**,
Silane, reaction products with **glycerol** 104275-58-3
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); BIOL (Biological study); USES (Uses)
(entrapment of Src protein tyrosine kinase in sugar-modified silica)

REFERENCE COUNT: 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 12 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:293521 CAPLUS
DOCUMENT NUMBER: 141:19859
TITLE: Protein-doped monolithic silica columns for capillary Liquid chromatography prepared by the sol-gel method: applications to frontal affinity chromatography
AUTHOR(S): Hodgson, Richard J.; Chen, Yang; Zhang, Zheng; Tleugabulova, Dina; Long, Hong; Zhao, Xiaoming; Organ, Michael; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Analytical Chemistry (2004), 76(10), 2780-2790
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 11 Apr 2004

AB The development of bioaffinity chromatog. columns that are based on the entrapment of biomols. within the pores of sol-gel-derived monolithic silica is reported. Monolithic nanoflow columns are formed by mixing the protein-compatible silica precursor **diglycerylsilane** with a buffered aqueous solution containing poly(ethylene oxide) (PEO, MW 10,000) and the protein of interest and then loading this mixture into a fused-silica capillary (150-250-μm i.d.). Spinodal decomposition of the PEO-doped sol into two distinct phases prior to the gelation of the silica results in a bimodal pore distribution that produces large macropores (>0.1 μm), to allow good flow of eluent with minimal back pressure, and mesopores (.apprx.3-5-nm diameter) that retain a significant fraction of the entrapped protein. Addition of low levels of (3-aminopropyl)triethoxysilane is shown to minimize nonselective interactions of analytes with the column material, resulting in a column that is able to retain small mols. by virtue of their interaction with the entrapped biomols. Such columns are

shown to be suitable for pressure-driven liquid chromatog. and can be operated at relatively high flow rates (up to 500 μL·min-1) or with low back pressures (<100 psi) when used at flow rates of 5-10 μL·min-1. The clin. relevant enzyme dihydrofolate reductase was entrapped within the bioaffinity columns and was used to screen mixts. of small mols. using frontal affinity chromatog. with mass spectrometric detection. Inhibitors present in compound mixts. were retained via bioaffinity interactions, with the retention time being dependent on both the ligand concentration and the affinity of the ligand for the protein. The results suggest that such columns may find use in high-throughput screening of compound mixts.

CC 9-3 (Biochemical Methods)
Section cross-reference(s): 6, 7

IT 919-30-2, (3-Aminopropyl)triethoxysilane **7803-62-5D**, Silane, reaction products with **glycerol** 25322-68-3, Poly(ethylene oxide)
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(protein-doped monolithic silica columns for capillary liquid chromatog. prepared by sol-gel method with applications to frontal affinity chromatog.)

REFERENCE COUNT: 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 13 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:347009 CAPLUS
DOCUMENT NUMBER: 141:75182
TITLE: Sugar-modified silanes: precursors for silica monoliths
AUTHOR(S): Brook, Michael A.; Chen, Yang; Guo, Kui; Zhang, Zheng; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Journal of Materials Chemistry (2004), 14(9), 1469-1479
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 28 Apr 2004

AB Sugar-modified silanes, alkoxysilanes derived from sugars and sugar alcs. including glycerol, sorbitol, maltose and dextran, were hydrolyzed to prepare monolithic, mesoporous silicas. Unlike conventional alkoxysilanes such as tetramethylorthosilicate (TMOS) and tetraethylorthosilicate (TEOS), the sol-gel hydrolysis and cure rates of sugarsilanes were very sensitive to ionic strength, but not to pH: comparable rates of gelation were observed for any specific compound at constant ionic strength over a pH range of about 5.5-11. Reduced levels of shrinkage when compared to TEOS (65% for **diglycerylsilane** (DGS)-derived silica; 50% for monosorbitylsilane (MSS)-derived silica) were also observed provided that the residual sugars were not washed or pyrolyzed from the silica monolith. Pore sizes in the dried silica monoliths (2-3 nm diameter) were marginally increased by the addition of non-functional polyethylene oxide (PEO) (mesopore sizes: no PEO, 3.1 nm; 4 wt% PEO MW 2000, 10000, 3.3 and 3.5 nm, resp.): the protein Human Serum Albumin did not act as a porogen. PEO terminated with Si(OEt)3 groups (TES-PEO), however, was very efficient at increasing mesopore size (TES-PEO MW 200 and 10000, led to pores of average diameter 3.7 and 6.1 nm, resp.). The addition of a multivalent metal such as

Mg2+ to the sol increased the pore sizes of glycerol silane-derived silica, but led to decreased sizes in silica prepared from TEOS. These changes in cure chemical and final properties are attributed to a distortion of the silica cure equilibrium by the multidentate sugar ligands.

CC 57-1 (Ceramics)
Section cross-reference(s): 33, 66, 78

IT 50-70-4, Sorbitol, processes **56-81-5**, Glycerol, processes 69-79-4, Maltose 78-10-4, Teos 681-84-5, Tmos 9004-54-0, Dextran, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(precursor; preparation of monolithic mesoporous silica from sugar-modified silane precursors)

IT 50-70-4D, Sorbitol, reaction products with tetramethoxysilane **56-81-5D**, Glycerol, reaction products with tetramethoxysilane 69-79-4D, Maltose, reaction products with tetramethoxysilane 681-84-5D, TMOS, reaction products with sugars 9004-54-0D, Dextran, reaction products with tetramethoxysilane
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(silica precursor; preparation of monolithic mesoporous silica from sugar-modified **silane** precursors)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 14 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:266275 CAPLUS
DOCUMENT NUMBER: 139:19018
TITLE: Screening of Inhibitors Using Enzymes Entrapped in Sol-Gel-Derived Materials
AUTHOR(S): Besanger, Travis R.; Chen, Yang; Deisingh, Anil K.; Hodgson, Richard; Jin, Wen; Mayer, Stanislas; Brook, Michael A.; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Analytical Chemistry (2003), 75(10), 2382-2391
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Apr 2003

AB In recent years, a number of new methods have been reported that make use of immobilized enzymes either on microarrays or in bioaffinity columns for high-throughput screening of compound libraries. A key question that arises in such methods is whether immobilization may alter the intrinsic catalytic and inhibition consts. of the enzyme. Herein, we examine how immobilization within sol-gel-derived materials affects the catalytic constant (kcat), Michaelis constant (KM), and inhibition constant (KI) of the clin. relevant enzymes Factor Xa, dihydrofolate reductase, cyclooxygenase-2, and γ-glutamyl transpeptidase. These enzymes were encapsulated into sol-gel-derived glasses produced from either tetra-Et orthosilicate (TEOS) or the newly developed silica precursor diglyceryl silane (DGS). It was found that the catalytic efficiency and long-term stability of all enzymes were improved upon entrapment into DGS-derived materials relative to entrapment in TEOS-based glasses, likely owing to the liberation of the biocompatible reagent glycerol from DGS. The KM values of enzymes entrapped in DGS-derived materials were typically higher than those in solution, whereas upon entrapment, kcat values were generally lowered by a factor of 1.5-7 relative to the value in solution, indicating that substrate turnover was limited by partitioning effects or diffusion

through the silica matrix. Nonetheless, the apparent KI value for the entrapped enzyme was in most cases within error of the value in solution, and even in the worst case, the values differed by no more than a factor of 3. The implications of these findings for high-throughput screening are discussed.

CC 7-7 (Enzymes)

ST **diglyceryl silane** immobilization dihydrofolate reductase cyclooxygenase glutamyl transpeptidase; blood coagulation factor cyclooxygenase glutamyl transpeptidase immobilization **diglyceryl silane**

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 15 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:365663 CAPLUS

DOCUMENT NUMBER: 139:81444

TITLE: Optimization of Sol-Gel Formulations and Surface Treatments for the Development of Pin-Printed Protein Microarrays

AUTHOR(S): Rupcich, Nicholas; Goldstein, Aaron; Brennan, John D.

CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.

SOURCE: Chemistry of Materials (2003), 15(9), 1803-1811 CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 14 May 2003

AB We report on the development and optimization of a sol-gel-based method for the preparation of protein microarrays that has the potential to allow pin-spotting of active proteins for high throughput multianalyte biosensing and screening of protein-small mol. interactions. Microarrays were printed onto bare and chemical modified surfaces using the com. available sol-gel precursors tetra-Et orthosilicate and sodium silicate and the newly developed biocompatible sol-gel precursors monosorbitol silane and **diglyceryl silane.** Parameters such as the type and level of the buffer, the water-to-silane ratio, and the solution pH were also varied to assess the factors that controlled the production of optimal microarrays. Such factors included the ability to pin-print without clogging of the pins, the adhesion of the sol-gel spot to the substrate, the dimensions of the microspot, and the stability of both the microspot and the entrapped protein. The microarraying of active antibodies was successfully demonstrated using an optimized combination of parameters, and such arrays were shown to have significantly higher signal-to-background levels than conventional arrays formed by covalent immobilization of antibodies on chemical derivatized surfaces.

CC 9-1 (Biochemical Methods)

IT **56-81-5**, Glycerol, uses
RL: MOA (Modifier or additive use); USES (Uses)
(influence on gelation; optimization of sol-gel formulations and surface treatments for development of pin-printed protein microarrays)

IT 50-70-4D, Sorbitol, reaction with silanes **56-81-5D**, Glycerol, reaction with **silanes** 78-10-4, Tetraethyl orthosilicate 1344-09-8, Sodium silicate
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(sol-gel precursor; optimization of sol-gel formulations and surface treatments for development of pin-printed protein microarrays)

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 16 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:713077 CAPLUS
DOCUMENT NUMBER: 137:381869
TITLE: Characterization of Fluorescent Phospholipid Liposomes Entrapped in Sol-Gel Derived Silica
AUTHOR(S): Besanger, Travis; Zhang, Ying; Brennan, John D.
CORPORATE SOURCE: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.
SOURCE: Journal of Physical Chemistry B (2002), 106(41), 10535-10542
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Sep 2002
AB Bilayer lipid membranes (BLMs) have been widely examined as sensing elements for a variety of analytes, in both the vapor and solution phases, using electrochem., acoustic wave, and fluorescence methods. For successful development of stable sensing devices, it is necessary to be able to immobilize the BLMs in a manner that allows long-term retention of the membrane structure and still permits large-scale structural reorganizations such as phase transitions. In this work, small unilamellar liposomes were formed from either 1,2-dipalmitoyl-sn-glycero-3-phosphocholine (DPPC) or L-α-phosphatidylcholine (egg PC) and were doped with 1-5 mol % of the fluorescent probes diphenylhexatriene (DPH) or nitrobenzoxadiazole-labeled dipalmitoylphosphatidylethanolamine (NBD-PE). The liposomes were entrapped in a series of different sol-gel derived silicate materials and the stability and phase-transition behavior of the liposomes was characterized. DPPC was observed to undergo reversible phase transitions when entrapped in glasses derived from either sodium silicate or a **diglyceryl silane** precursor; however, liposomes did not undergo phase transitions when entrapped in tetra-Et orthosilicate derived glasses, indicating that they had likely ruptured during the encapsulation process. As a practical demonstration of the use of the immobilized membranes for sensing applications, we have examined the use of pH-induced phase transitions as a means of generating a fluorescence signal that is based on changes in self-quenching of NBD-PE within liposomes composed of DPPC and dipalmitoylphosphatidic acid (DPPA). The results show that such pH-induced phase transitions occur for the entrapped vesicles and that the fluorescence responses follow the pH dependence of DPPA.
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 6, 79
IT 78-10-4, Tetraethyl orthosilicate 1344-09-8, Sodium silicate **7803-62-5D**, Silane, reaction products with **glycerol**
RL: ARU (Analytical role, unclassified); MSC (Miscellaneous); ANST (Analytical study)
(fluorescent phospholipid liposomes entrapped in sol-gel derived silica as sensors)
REFERENCE COUNT: 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L64 ANSWER 17 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:168834 CAPLUS
DOCUMENT NUMBER: 139:150428
TITLE: Effect of the surface treatment of glass fiber on the interface morphology and mechanical properties of polyurethane/glass fiber composites
AUTHOR(S): Xu, Tao; Wang, Jianhua; Fu, Qiang; Zhang, Xiaoyi;

Guan, Debin
CORPORATE SOURCE: Institute of Chemical Materials, Academy of Engineering Physics of China, Mianyang, 621900, Peop. Rep. China
SOURCE: Gongcheng Suliao Yingyong (2002), 30(12), 21-23
CODEN: GSYOAG; ISSN: 1001-3539
PUBLISHER: Gongcheng Suliao Yingyong Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 06 Mar 2003
AB The interface morphol. of polyurethane/glass fiber(PUR/GF) was characterized by AFM (atomic force microscopy). The AFM influence of two different coupling agents, namely, polyurethane coupling agent and silane coupling agent (KH-550) on the glass fiber surface was investigated. AFM results showed that polyurethane coupling agent was superior to KH-550, due to partly better interaction between polyurethane coupling agent and the matrix. The thickness of the interface was found to be approx. to 1 μm with polyurethane coupling agent. Even there existed a big difference between the interfaces of the composites by using two kinds of coupling agents, the mech. properties of two types of surface modified glass fiber-filled rigid polyurethane foams were not very much different.
CC 37-6 (Plastics Manufacture and Processing)
IT **56-81-5DP**, Glycerol, polyethers, polyurethanes 9016-87-9DP, PAPI, polyurethanes
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of polyurethane and **silane** coupling agent surface treatment of glass fiber on interface morphol. and mech. properties of polyurethane composites)

L64 ANSWER 18 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:59888 CAPLUS
DOCUMENT NUMBER: 124:178971
TITLE: Abrasion resistant inorganic/organic coating materials prepared by the **sol-gel** method
AUTHOR(S): Wen, J.; Vasudevan, V. J.; Wilkes, G. L.
CORPORATE SOURCE: Department of Chemical Engineering, Virginia Polytechnic Institute and State University, Blackburg, VA, 24061, USA
SOURCE: Journal of Sol-Gel Science and Technology (1995), 5(2), 115-26
CODEN: JSGTEC; ISSN: 0928-0707
PUBLISHER: Kluwer
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Jan 1996
AB Novel abrasion-resistant coating materials prepared by the sol-gel method were developed and applied on the polymeric substrates bisphenol-A polycarbonate and diallyl diglycol carbonate resin (CR-39). These coatings are inorg./organic hybrid network materials synthesized from 3-isocyanatopropyltriethoxysilane-functionalized orgs. and metal alkoxide. The organic components are 3.3'-iminobisproylamine, resorcinol, diethylenetriamine, poly(ethyleneimine), glycerol and a series of diols. The metal alkoxides are tetraethoxysilane (TEOS) and tetramethoxysilane (TMOS). These materials are spin coated onto bisphenol-A polycarbonate and CR-39 sheets and thermally cured to obtain a transparent coating of a few microns in thickness. Following the curing, the abrasion resistance is measured and compared with an uncoated control. The abrasion resistance of inorg./organic hybrid coatings in the neat form or containing metal

alkoxide can be very effective to improve the abrasion resistance of polymeric substrates. The adhesion tests show that the adhesion between coating and substrate can be greatly improved by treating the polymeric substrate surface with a primer solution of isopropanol containing 3-aminopropyltriethoxysilane (3-APS). The interaction between 3-APS and the polycarbonate surface was investigated by a mol. dynamics simulation. The results strongly suggest that the hydrogen bonding between the amino group of the 3-APS and ester group in the polycarbonate backbone are sufficiently strong to influence the orientation of the primer mols. The abrasion resistance of these new coating systems is discussed in light of the structure of the organic components. All of these results show that these coating materials have excellent abrasion resistance and have potential applications as coating materials for lenses and other polymeric products.

CC 42-10 (Coatings, Inks, and Related Products)

IT Glycols, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane; abrasion-resistant inorg./organic coating materials prepared by the **sol-gel** method for polycarbonates or CR-39)

IT Coating materials
(abrasion-resistant inorg./organic coating materials prepared by the **sol-gel** method for polycarbonates or CR-39)

IT Polycarbonates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the **sol-gel** method for polycarbonates or CR-39)

IT 24936-68-3, Bisphenol A-carbonic acid copolymer, sru, uses 25037-45-0, Bisphenol A-carbonic acid copolymer 25656-90-0, CR-39
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the **sol-gel** method for polycarbonates or CR-39)

IT 56-18-8D, 3.3'-Iminobispropylamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane **56-81-5D**, Glycerol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane **78-10-4D**, Tetraethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. 108-46-3D, Resorcinol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 111-40-0D, Diethylenetriamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane **681-84-5D**, Tetramethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. 9002-98-6D, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 26913-06-4D, Poly[imino(1,2-ethanediyl)], 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the **sol-gel** method for polycarbonates or CR-39)

L64 ANSWER 19 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:662443 CAPLUS
DOCUMENT NUMBER: 121:262443
TITLE: French limiting values for occupational exposure to chemicals

AUTHOR(S): Anon.
CORPORATE SOURCE: Fr.
SOURCE: Cahiers de Notes Documentaires (1993), 153, 557-74
CODEN: CNDIBJ; ISSN: 0007-9952
DOCUMENT TYPE: Journal
LANGUAGE: French
ED Entered STN: 26 Nov 1994
AB Limit values (suggested limiting values and maximum permissible values) for occupational exposure to chems., including carcinogens, which have been published by the French Labor Ministry are presented in one table. This table is preceded by information on the following points: monitoring of workplace atmospheres (sampling and anal.; aerosols); permitted values (definitions and aims; additivity convention; elements and compds.; limiting occupational exposure values; carcinogens); mandatory values; and values recommended by the French National Health Insurance Fund (CNAM).
CC 59-5 (Air Pollution and Industrial Hygiene)
IT 50-00-0, Formaldehyde, biological studies 50-29-3, biological studies 54-11-5, Nicotine 55-63-0, Nitroglycerine 56-23-5, Tetrachloromethane, biological studies 56-38-2, Parathion **56-81-5**, 1,2,3-Propanetriol, biological studies 57-14-7, 1,1-Dimethylhydrazine 57-24-9, Strychnine 57-50-1, biological studies 58-89-9, Lindane 60-29-7, biological studies 60-34-4, Methylhydrazine 60-57-1, Dieldrin 62-53-3, Aniline, biological studies 62-73-7, Dichlorvos 62-74-8 63-25-2, Carbaryl 64-17-5, Ethanol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methanol, biological studies 67-63-0, Isopropanol, biological studies 67-64-1, Acetone, biological studies 67-66-3, Trichloromethane, biological studies 67-72-1, Hexachloroethane 68-11-1, Thioglycolic acid, biological studies 68-12-2, biological studies 71-23-8, 1-Propanol, biological studies 71-36-3, n-Butyl alcohol, biological studies 71-43-2, Benzene, biological studies 71-55-6, 1,1,1-Trichloroethane 72-20-8, Endrin 72-43-5, Methoxychlor 74-83-9, Bromomethane, biological studies 74-87-3, Chloromethane, biological studies 74-89-5, Methylamine, biological studies 74-90-8, Hydrocyanic acid, biological studies 74-93-1, Methanethiol, biological studies 74-96-4, Bromoethane 74-97-5, Bromochloromethane 74-99-7, Propyne 75-00-3, Chloroethane 75-01-4, biological studies 75-04-7, Ethyl amine, biological studies 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde, biological studies 75-08-1, Ethanethiol 75-09-2, Dichloromethane, biological studies 75-12-7, Formamide, biological studies 75-15-0, Carbon disulfide, biological studies 75-21-8, Oxirane, biological studies 75-25-2, Tribromomethane 75-31-0, Isopropylamine, biological studies 75-34-3, 1,1-Dichloroethane 75-35-4, 1,1-Dichloroethylene, biological studies 75-43-4, Dichlorofluoromethane 75-44-5, Carbonic dichloride 75-45-6, Chlorodifluoromethane 75-47-8, Iodoform 75-50-3, Trimethylamine, biological studies 75-52-5, Nitromethane, biological studies 75-56-9, biological studies 75-61-6, Dibromodifluoromethane 75-63-8, Bromotrifluoromethane 75-65-0, tert-Butyl alcohol, biological studies 75-69-4, Trichlorofluoromethane 75-71-8, Dichlorodifluoromethane 75-74-1, Tetramethyllead 75-99-0, 2,2-Dichloropropionic acid 76-03-9, Trichloroacetic acid, biological studies 76-06-2 76-11-9 76-12-0, 1,1,2,2-Tetrachlorodifluoroethane 76-13-1, 1,1,2-Trichlorotrifluoroethane 76-14-2, 1,2-Dichlorotetrafluoroethane 76-15-3, Chloropentafluoroethane 76-22-2, Camphor 77-47-4, Hexachlorocyclopentadiene 77-73-6, Dicyclopentadiene 77-78-1, Dimethyl sulfate 78-00-2, Tetraethyllead **78-10-4** 78-30-8 78-34-2, Dioxathion 78-59-1, Isophorone 78-83-1, Isobutyl alcohol, biological studies 78-87-5, 1,2-Dichloropropane 78-92-2, sec-Butyl alcohol 78-93-3, Methyl ethyl ketone, biological studies 79-01-6,

Trichloroethylene, biological studies 79-04-9, Chloroacetyl chloride 79-06-1, 2-Propenamide, biological studies 79-09-4, Propionic acid, biological studies 79-10-7, 2-Propenoic acid, biological studies 79-24-3, Nitroethane 79-27-6, 1,1,2,2-Tetrabromoethane 79-34-5, 1,1,2,2-Tetrachloroethane 79-41-4, biological studies 80-62-6 81-81-2 83-26-1 84-66-2, Diethyl phthalate 84-74-2, Dibutyl phthalate 85-00-7, Diquat 85-44-9, 1,3-Isobenzofurandione 86-50-0, Azinphosmethyl 86-88-4 87-86-5, Pentachlorophenol 88-12-0, biological studies 88-89-1, Picric acid 89-72-5, o-sec-Butylphenol 90-04-0, o-Anisidine 91-20-3, Naphthalene, biological studies 91-59-8, 2-Naphthylamine 92-52-4, Biphenyl, biological studies 92-67-1, 4-Aminobiphenyl 92-84-2, Phenothiazine 92-87-5, Benzidine 93-76-5, 2,4,5-T 94-36-0, Dibenzoyl peroxide, biological studies 94-75-7, 2,4-D, biological studies 95-13-6, Indene 95-49-8, o-Chlorotoluene 95-50-1, 1,2-Dichlorobenzene 95-53-4, o-Toluidine, biological studies 96-22-0, Diethyl ketone 96-33-3 96-69-5 97-77-8, Disulfiram 98-00-0, Furfuryl alcohol 98-01-1, Furfural, biological studies 98-51-1, p-tert-Butyltoluene 98-82-8, Cumene 98-83-9, biological studies 98-95-3, Nitrobenzene, biological studies 99-08-1 100-01-6, 4-Nitroaniline, biological studies 100-37-8, 2-Diethylaminoethanol 100-41-4, Ethylbenzene, biological studies 100-42-5, biological studies 100-44-7, α-Chlorotoluene, biological studies 100-61-8, biological studies 100-74-3, N-Ethylmorpholine 101-14-4, 3,3'-Dichloro-4,4'-diaminodiphenylmethane 101-68-8 101-84-8D, Diphenyl ether, chloro derivs. 102-54-5, Ferrocene 102-81-8, N,N-Dibutylaminoethanol 104-94-9, p-Anisidine 105-46-4, sec-Butyl acetate 105-60-2, biological studies 106-35-4, 3-Heptanone 106-46-7, 1,4-Dichlorobenzene 106-50-3, p-Phenylenediamine, biological studies 106-51-4, p-Benzoquinone, biological studies 106-89-8, biological studies 106-92-3 106-97-8, Butane, biological studies 107-02-8, 2-Propenal, biological studies 107-05-1, 3-Chloropropene 107-06-2, 1,2-Dichloroethane, biological studies 107-07-3, biological studies 107-13-1, 2-Propenenitrile, biological studies 107-15-3, 1,2-Ethanediamine, biological studies 107-18-6, Allyl alcohol, biological studies 107-19-7, Propargyl alcohol 107-20-0, Chloroacetaldehyde 107-21-1, 1,2-Ethanediol, biological studies 107-31-3, Methyl formate 107-41-5, Hexylene glycol 107-49-3 107-66-4, Dibutyl phosphate 107-87-9, Methyl propyl ketone 107-98-2, 1-Methoxy-2-propanol 108-03-2, 1-Nitropropane 108-05-4, Acetic acid ethenyl ester, biological studies 108-10-1, Methyl isobutyl ketone 108-11-2, 4-Methyl-2-pentanol 108-18-9, Diisopropylamine 108-20-3, Diisopropyl ether 108-21-4, Isopropyl acetate 108-24-7, Acetic anhydride 108-31-6, 2,5-Furandione, biological studies 108-46-3, Resorcinol, biological studies 108-57-6, 1,3-Divinylbenzene 108-83-8, Diisobutyl ketone 108-84-9 108-87-2, Methylcyclohexane 108-88-3, Toluene, biological studies 108-90-7, Chlorobenzene, biological studies 108-91-8, Cyclohexanamine, biological studies 108-93-0, Cyclohexanol, biological studies 108-94-1, Cyclohexanone, biological studies 108-95-2, Phenol, biological studies 108-98-5, Phenyl mercaptan, biological studies 109-59-1, 2-Isopropoxyethanol 109-60-4, Propyl acetate 109-66-0, Pentane, biological studies 109-73-9, Butylamine, biological studies 109-79-5, Butanethiol 109-86-4, 2-Methoxyethanol 109-87-5, Methylal 109-89-7, biological studies 109-94-4, Ethyl formate 109-99-9, biological studies 110-12-3, Methyl isoamyl ketone 110-19-0, Isobutyl acetate 110-43-0, 2-Heptanone 110-49-6, 2-Methoxyethyl acetate 110-54-3, n-Hexane, biological studies 110-62-3, Valeraldehyde 110-80-5, 2-Ethoxyethanol 110-82-7, Cyclohexane, biological studies 110-83-8, Cyclohexene, biological studies 110-86-1, Pyridine, biological studies 110-91-8, Morpholine, biological studies 111-15-9, 2-Ethoxyethyl acetate 111-30-8,

Pentanedial 111-40-0 111-42-2, Diethanolamine, biological studies 111-44-4, Bis(2-chloroethyl) ether 111-65-9, Octane, biological studies 111-76-2, 2-Butoxyethanol 111-84-2, Nonane 114-26-1, Propoxur 115-29-7, Endosulfan 115-77-5, biological studies 115-86-6, Triphenyl phosphate 115-90-2, Fensulfothion 117-81-7, Bis(2-ethylhexyl) phthalate 118-52-5, 1,3-Dichloro-5,5-dimethylhydantoin 118-96-7, 2,4,6-Trinitrotoluene 120-80-9, 1,2-Benzenediol, biological studies 120-82-1, 1,2,4-Trichlorobenzene 121-44-8, biological studies RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(occupational exposure; occupational exposure and stds. for limiting workplace concns. of chems. in France)

IT 121-45-9, Trimethyl phosphite 121-69-7, N,N-Dimethylaniline, biological studies 121-75-5, Malathion 121-82-4, Hexogen 122-39-4, Diphenylamine, biological studies 122-60-1 123-19-3, Dipropyl ketone 123-31-9, 1,4-Benzenediol, biological studies 123-42-2, Diacetone alcohol 123-51-3, Isoamyl alcohol 123-73-9, trans-2-Butenal 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, biological studies 123-92-2, Isoamyl acetate 124-40-3, Dimethylamine, biological studies 126-73-8, Tributyl phosphate, biological studies 126-98-7 126-99-8, 2-Chloro-1,3-butadiene 127-18-4, Perchloroethylene, biological studies 127-19-5, N,N-Dimethylacetamide 128-37-0, 2,6-Di-tert-butyl-p-cresol, biological studies 131-11-3 133-06-2 136-78-7 137-05-3, Methyl 2-cyanoacrylate 137-26-8 138-22-7, Butyl lactate 140-88-5 141-32-2 141-43-5, biological studies 141-66-2, Dicrotophos 141-78-6, Acetic acid ethyl ester, biological studies 141-79-7, Mesityl oxide 142-64-3 142-82-5, n-Heptane, biological studies 144-62-7, Ethanedioic acid, biological studies 148-01-6, 3,5-Dinitro-o-toluamide 150-76-5, 4-Methoxyphenol 156-62-7, Calcium cyanamide 287-92-3, Cyclopentane 298-00-0, Methylparathion 298-02-2 298-04-4, Disulfoton 299-84-3, Fenchlorphos 299-86-5, Crufomate 300-76-5 302-01-2, Hydrazine, biological studies 309-00-2, Aldrin 314-40-9, Bromacil 330-54-1, Diuron 333-41-5 353-50-4, Carbonyl fluoride 409-21-2, Silicon carbide (SiC), biological studies 420-04-2, Cyanamide 460-19-5, Cyanogen 471-34-1, Calcium carbonate, biological studies 479-45-8, Tetryl 504-29-0, 2-Aminopyridine 506-77-4, Cyanogen chloride 509-14-8, Tetranitromethane 532-27-4, α-Chloroacetophenone 534-52-1, 4,6-Dinitro-o-cresol 540-88-5, tert-Butyl acetate 541-85-5, 5-Methyl-3-heptanone 542-88-1 542-92-7, Cyclopentadiene, biological studies 546-93-0, Magnesium carbonate 552-30-7, Trimellitic anhydride 556-52-5, Glycidol 557-05-1, Zinc stearate 558-13-4, Tetrabromomethane 563-12-2, Diethion 563-80-4, Methyl isopropyl ketone 583-60-8, 2-Methylcyclohexanone 591-78-6, 2-Hexanone 594-42-3, Perchloromethyl mercaptan 594-72-9, 1,1-Dichloro-1-nitroethane 598-56-1, N,N-Dimethylethylamine 600-25-9, 1-Chloro-1-nitropropane 603-34-9, Triphenylamine 624-83-9, Methyl isocyanate 626-17-5, 1,3-Benzenedicarbonitrile 627-13-4, n-Propyl nitrate 628-63-7, Amyl acetate 628-96-6 629-73-2, Cetene 630-08-0, Carbon monoxide, biological studies 638-21-1, Phenylphosphine **681-84-5** 684-16-2, Hexafluoroacetone 768-52-5, N-Isopropylaniline 822-06-0 944-22-9, Fonofos 999-61-1, 2-Hydroxypropyl acrylate 1189-85-1 1300-73-8, Xylidine 1303-86-2, Boron oxide (B2O3), biological studies 1303-96-4, Borax ($B_4Na_2O_7.10H_2O$) 1304-82-1, Bismuth telluride (Bi_2Te_3) 1305-62-0, Calcium hydroxide (Ca(OH)2), biological studies 1305-78-8, Calcium oxide, biological studies 1306-19-0, Cadmium oxide (CdO), biological studies 1309-37-1, Ferric oxide, biological studies 1309-48-4, Magnesium oxide, biological studies 1310-58-3, Potassium hydroxide, biological studies 1310-73-2, Sodium hydroxide, biological studies 1314-13-2, Zinc oxide, biological studies 1314-56-3, Phosphorus pentoxide, biological studies 1314-80-3, Phosphorus

pentasulfide 1317-35-7, Manganese oxide (Mn3O4) 1319-77-3, Cresol 1321-64-8, Pentachloronaphthalene 1321-65-9, Trichloronaphthalene 1327-53-3, Arsenic oxide (As2O3) 1330-20-7, Xylene, biological studies 1330-43-4, Boron sodium oxide (B4Na2O7) 1335-87-1, Hexachloronaphthalene 1335-88-2, Tetrachloronaphthalene 1338-23-4, Methyl ethyl ketone peroxide 1344-28-1, Aluminum oxide (Al2O3), biological studies 1477-55-0, 1,3-Benzenedimethanamine 1563-66-2, Carbofuran 1912-24-9 1918-02-1 1929-82-4 2039-87-4, o-Chlorostyrene 2104-64-5 2179-59-1 2234-13-1, Octachloronaphthalene 2238-07-5, Diglycidyl ether 2425-06-1, Captafol 2426-08-6 2551-62-4 2698-41-1, o-Chlorobenzylidene malononitrile 2699-79-8, Sulfuryl fluoride 2921-88-2, Chlorpyrifos 2971-90-6, Clopidol 3173-72-6, 1,5-Naphthyldiisocyanate 3333-52-6, Tetramethylsuccinonitrile 3383-96-8, Temephos 3689-24-5 4016-14-2, Isopropyl glycidyl ether 4098-71-9 4685-14-7, Paraquat 6423-43-4 6923-22-4, Monocrotophos 7429-90-5, Aluminum, biological studies 7439-92-1, Lead, biological studies 7439-97-6D, Mercury, alkylated and arylated derivs. 7439-98-7, Molybdenum, biological studies 7440-02-0, Nickel, biological studies 7440-06-4, Platinum, biological studies 7440-16-6, Rhodium, biological studies 7440-21-3, Silicon, biological studies 7440-22-4D, Silver, compds. 7440-25-7, Tantalum, biological studies 7440-28-0, Thallium, biological studies 7440-31-5D, Tin, compds. 7440-36-0D, Antimony, compds. 7440-39-3, Barium, biological studies 7440-41-7, Beryllium, biological studies 7440-43-9, Cadmium, biological studies 7440-47-3, Chromium, biological studies 7440-50-8, Copper, biological studies 7440-58-6, Hafnium, biological studies 7440-62-2, Vanadium, biological studies 7440-65-5, Yttrium, biological studies 7446-09-5, Sulfur dioxide, biological studies 7553-56-2, Iodine, biological studies 7580-67-8, Lithium hydride 7616-94-6, Perchloryl fluoride 7631-90-5, Sodium bisulfite 7637-07-2, Boron trifluoride, biological studies 7646-85-7, Zinc chloride (ZnCl2), biological studies 7647-01-0, Hydrogen chloride, biological studies 7664-38-2, Phosphoric acid, biological studies 7664-39-3, Hydrofluoric acid, biological studies 7664-41-7, Ammonia, biological studies 7664-93-9, Sulfuric acid, biological studies 7681-49-4, Sodium fluoride, biological studies 7681-57-4 7697-37-2, Nitric acid, biological studies 7719-12-2, Phosphorus trichloride 7722-84-1, Hydrogen peroxide, biological studies 7722-88-5, Tetrasodium pyrophosphate 7726-95-6, Bromine, biological studies 7773-06-0, Ammonium sulfamate 7778-18-9, Calcium sulfate 7782-41-4, Fluorine, biological studies 7782-42-5, Graphite, biological studies 7782-50-5, Chlorine, biological studies 7782-65-2, Germanium tetrahydride 7783-06-4, Hydrogen sulfide, biological studies 7783-07-5, Hydrogen selenide 7783-54-2, Nitrogen trifluoride 7783-79-1, Selenium hexafluoride 7783-80-4, Tellurium hexafluoride 7784-42-1, Arsine 7786-34-7, Mevinphos 7789-30-2, Bromine pentafluoride 7790-91-2, Chlorine trifluoride 7803-51-2, Phosphine 7803-52-3, Stibine **7803-62-5**, Silane, biological studies 8001-35-2, Toxaphene 8022-00-2 8065-48-3, Demeton 10025-87-3, Phosphoric trichloride 10026-13-8, Phosphorus pentachloride 10028-15-6, Ozone, biological studies 10049-04-4, Chlorine dioxide 10102-43-9, Nitrogen oxide (NO), biological studies 10102-44-0, Nitrogen dioxide, biological studies 10210-68-1 11097-69-1, PCB 1254 12001-29-5, Chrysotile 12108-13-3, Tricarbonyl methylcyclopentadienylmanganese 12125-02-9, Ammonium chloride, biological studies 12179-04-3 12789-03-6, Chlordane 13463-40-6, Iron pentacarbonyl 13463-67-7, Titanium dioxide, biological studies 13494-80-9, Tellurium, biological studies 14464-46-1, Cristobalite (SiO2) 14484-64-1 14808-60-7, Quartz, biological studies 15468-32-3, Tridymite (SiO2) 16219-75-3 16752-77-5 16842-03-8 17702-41-9, Decaborane(14) 17804-35-2 19287-45-7, Diborane 19624-22-7, Pentaborane 20816-12-0, Osmium tetroxide 21087-64-9

RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(occupational exposure; occupational exposure and stds. for limiting workplace concns. of chems. in France)

L64 ANSWER 20 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:593768 CAPLUS
DOCUMENT NUMBER: 117:193768
TITLE: Oxidative polymerizable organosilicon compositions and printing inks
INVENTOR(S): Sato, Koji
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04145173	A2	19920519	JP 1990-269183	19901005
PRIORITY APPLN. INFO.:			JP 1990-269183	19901005

ED Entered STN: 15 Nov 1992
AB The title inks which prevent piling of dusts on blankets and form quick-drying prints with good abrasion resistance contain compns. prepared by the reaction of unsatd. fatty acids or OH-containing (un)saturated fatty acid esters, isocyanates, and active H-containing reactive Si compds. Thus, heating tung-oil fatty acid 280, TDI 174, and dibutyltin dilaurate 0.5 part at 80° for 4 h and subsequent reaction with 73 parts Me3SiH for 4 h gave a product (I). A printing ink containing rosin-modified phenolic resin 30, solvent 41, oil 7, Carmine 6B 18, Co naphthenate 1, and I 3.0 parts showed good dust piling resistance.
IC ICM C09D011-10
ICS C08G018-32; C08G018-38
CC 42-12 (Coatings, Inks, and Related Products)
IT **56-81-5DP**, Glycerin, linseed-oil fatty acid esters, reaction products with isocyanates and **silanes** 77-99-6DP, Trimethylolpropane, linseed-oil fatty acid esters, reaction products with isocyanates and silanes 822-06-0DP, Hexamethylene diisocyanate, reaction products with unsatd. fatty acids and silanes 993-07-7DP, Trimethylsilane, reaction products with unsatd. fatty acids and isocyanates 4098-71-9DP, Isophorone diisocyanate, reaction products with unsatd. fatty acids and silanes 13176-69-7DP, reaction products with unsatd. fatty acids and isocyanates 26471-62-5DP, TDI, reaction products with unsatd. fatty acids and silanes
RL: PREP (Preparation)
(preparation of, printing inks containing, with reduced dust piling on blankets)

L64 ANSWER 21 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:65829 CAPLUS
DOCUMENT NUMBER: 118:65829
TITLE: Air contaminants
CORPORATE SOURCE: Occupational Safety and Health Administration, U. S. Dep. Labor, Washington, DC, 20210, USA
SOURCE: Federal Register (1992), 57(114, Bk. 2), 26002-601, 12 Jun 1992
CODEN: FEREAC; ISSN: 0097-6326

DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 Feb 1993
AB Proposed amendments of existing air contaminant stds. for the maritime and construction industries and extension of air contaminant stds. to agricultural employees (only employees of farms with >10 nonfamily employees are covered) are given under the Federal Occupational Safety and Health Administration. Tables that indicated transitional limits, based on established threshold limit values, indication of skin protection needs, proposed time-weighted average exposure (any 8-h work shift for 40-h week), short-term exposure limit (15-min time-weighted average), ceiling (exposure during any part of the work day, or if instantaneous monitoring is not feasible, the 15-min time-weighted average), and/or skin protection needs are given for the shipyard, marine terminal and longshoring, construction, and agricultural industries. Extensive data on health effects of the substances to be regulated and preliminary regulatory impact analyses are given for general industry and the specific industrial sectors.
CC 59-5 (Air Pollution and Industrial Hygiene)
IT 50-00-0, Formaldehyde, biological studies 50-29-3, DDT, miscellaneous 50-78-2, Acetylsalicylic acid 54-11-5, Nicotine 55-38-9, Fenthion 55-63-0, Nitroglycerin 56-23-5, Carbon tetrachloride, biological studies 56-38-2, Parathion **56-81-5**, 1,2,3-Propanetriol, biological studies 57-14-7, 1,1-Dimethylhydrazine 57-24-9, Strychnine 57-50-1, Sucrose, biological studies 57-57-8, 2-Oxetanone 58-89-9, Lindane 60-29-7, Ethyl ether, biological studies 60-34-4, Methyl hydrazine 60-57-1, Dieldrin 61-82-5, Amitrole 62-53-3, Aniline, biological studies 62-53-3D, Aniline, homologs 62-73-7, Dichlorvos 62-74-8 62-75-9, N-Nitrosodimethylamine 63-25-2 64-17-5, Ethyl alcohol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methyl alcohol, biological studies 67-63-0, 2-Propanol, biological studies 67-64-1, Acetone, biological studies 67-66-3, Chloroform, biological studies 67-72-1, Hexachloroethane 68-11-1, Thioglycolic acid, biological studies 68-12-2, Dimethylformamide, biological studies 71-23-8, n-Propyl alcohol, biological studies 71-43-2, Benzene, biological studies 71-55-6, Methyl chloroform 72-20-8, Endrin 72-43-5 74-83-9, Methyl bromide, biological studies 74-87-3, Methyl chloride, biological studies 74-88-4, Methyl iodide, biological studies 74-89-5, Methylamine, biological studies 74-90-8, Hydrogen cyanide, biological studies 74-93-1, Methyl mercaptan, biological studies 74-96-4, Ethyl bromide 74-97-5, Chlorobromomethane 74-99-7, Methyl acetylene 75-00-3, Ethyl chloride 75-01-4, biological studies 75-04-7, Ethylamine, biological studies 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde, biological studies 75-08-1, Ethyl mercaptan 75-09-2, Methylene chloride, biological studies 75-12-7, Formamide, biological studies 75-15-0, Carbon disulfide, biological studies 75-21-8, Oxirane, biological studies 75-25-2, Bromoform 75-31-0, 2-Propanamine, biological studies 75-34-3, 1,1-Dichloroethane 75-35-4, Vinylidene chloride, biological studies 75-43-4, Dichloromonofluoromethane 75-44-5, Carbonic dichloride 75-45-6, Chlorodifluoromethane 75-47-8, Iodoform 75-50-3, Trimethylamine, biological studies 75-52-5, Nitromethane, biological studies 75-55-8 75-56-9, biological studies 75-61-6, Difluorodibromomethane 75-63-8, Trifluorobromomethane 75-65-0, tert-Butyl alcohol, biological studies 75-69-4, Fluorotrichloromethane 75-71-8, Dichlorodifluoromethane 75-74-1, Tetramethyl lead 75-99-0, 2,2-Dichloropropionic acid 76-03-9, Trichloroacetic acid, biological studies 76-06-2, Chloropicrin 76-11-9, 1,1,1,2-Tetrachloro-2,2-difluoroethane 76-12-0, 1,1,2,2-Tetrachloro-1,2-difluoroethane 76-13-1, 1,1,2-Trichloro-1,2,2-

trifluoroethane 76-15-3 76-22-2 76-44-8, Heptachlor 77-47-4, Hexachlorocyclopentadiene 77-73-6 77-78-1, Dimethyl sulfate 78-00-2, Tetraethyl lead 78-30-8, Tri-o-cresyl phosphate 78-34-2, Dioxathion 78-59-1, Isophorone 78-83-1, Isobutyl alcohol, biological studies 78-87-5, Propylene dichloride 78-92-2, sec-Butyl alcohol 78-93-3, 2-Butanone, biological studies 79-00-5, 1,1,2-Trichloroethane 79-01-6, Trichloroethylene, biological studies 79-04-9, Chloroacetyl chloride 79-06-1, 2-Propenamide, biological studies 79-09-4, Propionic acid, biological studies 79-10-7, 2-Propenoic acid, biological studies 79-20-9, Methyl acetate 79-24-3, Nitroethane 79-27-6, Acetylene tetrabromide 79-34-5, 1,1,2,2-Tetrachloroethane 79-41-4, biological studies 79-46-9, 2-Nitropropane 79-92-5D, Camphene, chloro derivs. 80-62-6 81-81-2, Warfarin 83-26-1, Pindone 83-79-4, Rotenone 84-66-2, Diethyl phthalate 84-74-2, Dibutyl phthalate 85-00-7, Diquat 85-44-9, 1,3-Isobenzofurandione 86-50-0, Azinphos-methyl 87-68-3, Hexachlorobutadiene 87-86-5, Pentachlorophenol 88-72-2, o-Nitrotoluene 88-89-1, Picric acid 89-72-5, o-sec-Butylphenol 91-20-3, Naphthalene, biological studies 91-59-8, β-Naphthylamine 92-52-4, Diphenyl, biological studies 92-52-4D, Biphenyl, chloro derivs. 92-84-2, Phenothiazine 92-87-5, Benzidine 93-76-5, 2,4,5-T 94-36-0, Benzoyl peroxide, biological studies 94-75-7, biological studies 95-13-6, Indene 95-49-8, o-Chlorotoluene 95-50-1, o-Dichlorobenzene 95-53-4, o-Toluidine, biological studies 96-12-8, 1,2-Dibromo-3-chloropropane 96-18-4, 1,2,3-Trichloropropane 96-22-0, 3-Pentanone 96-33-3 96-69-5 97-77-8, Disulfiram 98-00-0, Furfuryl alcohol 98-01-1, Furfural, biological studies 98-51-1, p-tert-Butyltoluene 98-82-8, Cumene 98-83-9, biological studies 98-95-3, Nitrobenzene, biological studies 99-08-1, m-Nitrotoluene 99-65-0, m-Dinitrobenzene 99-99-0, p-Nitrotoluene 100-00-5, p-Nitrochlorobenzene 100-01-6, p-Nitroaniline, biological studies 100-25-4, p-Dinitrobenzene 100-37-8, 2-Diethylaminoethanol 100-41-4, biological studies 100-42-5, biological studies 100-44-7, biological studies 100-61-8, biological studies 100-63-0, Phenylhydrazine 100-74-3, N-Ethylmorpholine 101-14-4, 4,4'-Methylenebis(2-chloroaniline) 101-68-8 101-84-8, Phenyl ether 101-84-8D, Diphenyl oxide, chloro derivs. 102-54-5, Dicyclopentadienyl iron 102-81-8 105-46-4, sec-Butyl-acetate 105-60-2, biological studies 106-35-4, Ethyl butyl ketone 106-46-7, p-Dichlorobenzene 106-49-0, p-Toluidine, biological studies 106-50-3, p-Phenylenediamine, biological studies 106-51-4, Quinone, biological studies 106-68-3, Ethyl amyl ketone 106-87-6 106-89-8, biological studies 106-92-3, Allyl glycidyl ether 106-93-4, Ethylene dibromide 106-97-8, Butane, biological studies 106-99-0, 1,3-Butadiene, biological studies 107-02-8, 2-Propenal, biological studies 107-05-1, Allyl chloride 107-06-2, Ethylene dichloride, biological studies 107-07-3, Ethylene chlorohydrin, biological studies 107-13-1, 2-Propenenitrile, biological studies 107-15-3, 1,2-Ethanediamine, biological studies 107-18-6, 2-Propen-1-ol, biological studies 107-19-7, Propargyl alcohol 107-20-0, Chloroacetaldehyde 107-21-1, 1,2-Ethanediol, biological studies 107-31-3, Methyl formate 107-41-5, Hexylene glycol 107-49-3, Tetraethyl pyrophosphate 107-66-4, Dibutyl phosphate 107-87-9, 2-Pentanone 108-03-2, 1-Nitropropane 108-05-4, Acetic acid ethenyl ester, biological studies 108-10-1, Hexone 108-11-2, Methyl isobutyl carbinol 108-18-9, Diisopropylamine 108-20-3, Isopropyl ether 108-21-4, Isopropyl acetate 108-24-7, Acetic anhydride 108-31-6, 2,5-Furandione, biological studies 108-44-1, m-Toluidine, biological studies 108-46-3, Resorcinol, biological studies 108-83-8, Diisobutyl ketone 108-84-9 108-87-2, Methylcyclohexane 108-88-3, Toluene, biological studies 108-90-7, Chlorobenzene, biological studies 108-91-8, Cyclohexylamine, biological studies 108-93-0, Cyclohexanol, biological studies 108-94-1, Cyclohexanone, biological studies

108-95-2, Phenol, biological studies 108-98-5, Phenyl mercaptan, biological studies 109-59-1, 2-Isopropoxyethanol 109-60-4, n-Propyl acetate 109-66-0, Pentane, biological studies 109-73-9, Butylamine, biological studies 109-79-5, Butyl mercaptan 109-86-4, 2-Methoxyethanol 109-87-5, Methylal 109-89-7, Diethylamine, biological studies 109-94-4, Ethyl formate 109-99-9, biological studies 110-12-3, Methyl isoamyl ketone 110-19-0, Isobutyl acetate 110-43-0, Methyl n-amyl ketone 110-49-6, 2-Methoxyethanol acetate 110-54-3, Hexane, biological studies 110-62-3, n-Valeraldehyde 110-80-5, 2-Ethoxyethanol 110-82-7, Cyclohexane, biological studies 110-83-8, Cyclohexene, biological studies
RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(exposure limits to airborne, in agricultural and construction and maritime industries, stds. for)

IT 110-86-1, Pyridine, biological studies 110-91-8, Morpholine, biological studies 111-15-9, 2-Ethoxyethyl acetate 111-30-8, Pentanedial 111-40-0, Diethylenetriamine 111-42-2, biological studies 111-44-4 111-65-9, Octane, biological studies 111-76-2, 2-Butoxyethanol 111-84-2, Nonane 114-26-1, Propoxur 115-29-7, Endosulfan 115-77-5, Pentaerythritol, biological studies 115-86-6 115-90-2, Fensulfothion 117-81-7, Bis(2-ethylhexyl) phthalate 118-52-5, 1,3-Dichloro-5,5-dimethyl hydantoin 118-96-7, 2,4,6-Trinitrotoluene 120-80-9, Pyrocatechol, biological studies 120-82-1, 1,2,4-Trichlorobenzene 121-44-8, Triethylamine, biological studies 121-45-9, Trimethyl phosphite 121-69-7, N,N-Dimethylaniline, biological studies 121-75-5 121-82-4, Cyclonite 122-39-4, Diphenylamine, biological studies 122-60-1, Phenyl glycidyl ether 123-19-3, Dipropyl ketone 123-31-9, Hydroquinone, biological studies 123-42-2, Diacetone alcohol 123-51-3, Isoamyl alcohol 123-86-4, n-Butyl-acetate 123-91-1, 1,4-Dioxane, biological studies 123-92-2, Isoamyl acetate 124-38-9, Carbon dioxide, biological studies 124-40-3, Dimethylamine, biological studies 126-73-8, Tributyl phosphate, biological studies 126-98-7, Methylacrylonitrile 126-99-8, β-Chloroprene 127-18-4, Perchloroethylene, biological studies 127-19-5, Dimethyl acetamide 128-37-0, 2,6-Di-tert-butyl-p-cresol, biological studies 131-11-3, Dimethylphthalate 133-06-2, Captan 136-78-7, Sesone 137-05-3, Methyl 2-cyanoacrylate 138-22-7, n-Butyl lactate 140-88-5 141-32-2 141-43-5, Ethanolamine, biological studies 141-66-2, Dicrotophos 141-78-6, Ethyl acetate, biological studies 141-79-7, Mesityl oxide 142-64-3, Piperazine dihydrochloride 142-82-5, Heptane, biological studies 144-62-7, Oxalic acid, biological studies 150-76-5, 4-Methoxyphenol 151-56-4, Ethylenimine, biological studies 156-62-7, Calcium cyanamide 287-92-3, Cyclopentane 298-00-0, Methyl parathion 298-02-2, Phorate 298-04-4, Disulfoton 299-84-3, Ronnel 299-86-5, Crufomate 300-76-5, Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate 302-01-2, Hydrazine, biological studies 309-00-2, Aldrin 314-40-9, Bromacil 330-54-1 333-41-5, Diazinon 334-88-3, Diazomethane 353-50-4, Carbonyl fluoride 409-21-2, Silicon carbide, biological studies 420-04-2, Cyanamide 460-19-5, Cyanogen 463-51-4, Ketene 471-34-1, Calcium carbonate, biological studies 479-45-8, Tetryl 504-29-0, 2-Aminopyridine 506-77-4, Cyanogen chloride 509-14-8, Tetranitromethane 528-29-0, o-Dinitrobenzene 532-27-4, Phenacyl chloride 534-52-1, Dinitro-o-cresol 540-59-0, 1,2-Dichloroethylene 540-88-5, tert-Butyl-acetate 542-75-6, 1,3-Dichloropropene 542-92-7, Cyclopentadiene, biological studies 552-30-7 556-52-5, Oxiranemethanol 557-05-1, Zinc stearate 558-13-4, Carbon tetrabromide 563-12-2, Ethion 563-80-4, Methyl isopropyl ketone 583-60-8 584-84-9, Toluene 2,4-diisocyanate 591-78-6, 2-Hexanone 593-60-2, Vinyl bromide 594-42-3, Perchloromethyl mercaptan 594-72-9, 1,1-Dichloro-1-nitroethane

600-25-9, 1-Chloro-1-nitropropane 603-34-9, Triphenylamine 624-83-9, Methyl isocyanate 626-17-5, 1,3-Benzenedicarbonitrile 627-13-4, n-Propyl nitrate 628-63-7, n-Amyl acetate 628-96-6, Ethylene glycol dinitrate 630-08-0, Carbon monoxide, biological studies 638-21-1, Phenylphosphine **681-84-5**, Methyl silicate 684-16-2, Hexafluoroacetone 768-52-5, N-Isopropylaniline 944-22-9, Fonofos 999-61-1, 2-Hydroxypropyl acrylate 1189-85-1, tert-Butyl chromate 1300-73-8, Xylidine 1303-86-2, Boron oxide, biological studies 1304-82-1, Bismuth telluride 1305-62-0, Calcium hydroxide, biological studies 1305-78-8, Calcium oxide, biological studies 1309-37-1, Iron oxide, biological studies 1309-48-4, Magnesium oxide (MgO), biological studies 1310-58-3, Potassium hydroxide, biological studies 1310-73-2, Sodium hydroxide, biological studies 1314-13-2, Zinc oxide, biological studies 1314-80-3, Phosphorus pentasulfide 1319-77-3, Cresol 1320-37-2, Dichlorotetrafluoroethane 1320-67-8, Propylene glycol monomethyl ether 1321-12-6, Nitrotoluene 1321-64-8, Pentachloronaphthalene 1321-65-9, Trichloronaphthalene 1321-74-0, Divinyl benzene, biological studies 1330-20-7, Xylene, biological studies 1330-43-4, Boron sodium oxide (B4Na2O7) 1332-29-2, Tin oxide 1333-82-0, Chromium oxide (CrO3) 1335-87-1, Hexachloronaphthalene 1335-88-2, Tetrachloronaphthalene 1338-23-4, Methyl ethyl ketone peroxide 1344-28-1, α-Alumina, miscellaneous 1344-95-2, Calcium silicate 1477-55-0, 1,3-Benzenedimethanamine 1563-66-2, Carbofuran 1912-24-9, Atrazine 1918-02-1, Picloram 1929-82-4, 2-Chloro-6-(trichloromethyl) pyridine 2039-87-4 2104-64-5, EPN 2179-59-1, Allyl propyl disulfide 2234-13-1, Octachloronaphthalene 2238-07-5, Diglycidyl ether 2425-06-1, Captafol 2426-08-6 2551-62-4, Sulfur hexafluoride 2698-41-1, o-Chlorobenzylidene malononitrile 2699-79-8, Sulfuryl fluoride 2921-88-2, Chlorpyrifos 2971-90-6, Clopidol 3333-52-6, Tetramethyl succinonitrile 3383-96-8, Temephos 3689-24-5, Sulfotep 4016-14-2, Isopropyl glycidyl ether 4098-71-9, Isophorone diisocyanate 4170-30-3, Crotonaldehyde 4685-14-7, Paraquat 5124-30-1, Methylene bis(4-cyclohexylisocyanate) 6423-43-4, Propylene glycol dinitrate 6923-22-4, Monocrotophos 7429-90-5, Aluminum, biological studies 7429-90-5D, Aluminum, alkyl compds. and salts, biological studies 7439-89-6D, Iron, salts 7439-92-1, Lead, biological studies 7439-96-5, Manganese, biological studies 7439-96-5D, Manganese, compds. 7439-97-6, Mercury, biological studies 7439-97-6D, Mercury, alkyl and aryl and inorg. compds. 7439-98-7, Molybdenum, biological studies 7439-98-7D, Molybdenum, compds. 7440-02-0, Nickel, biological studies 7440-02-0D, Nickel, compds. 7440-06-4, Platinum, biological studies 7440-06-4D, Platinum, salts 7440-16-6, Rhodium, biological studies 7440-16-6D, Rhodium, compds. 7440-21-3, Silicon, biological studies 7440-22-4, Silver, biological studies 7440-22-4D, Silver, compds. 7440-25-7, Tantalum, biological studies 7440-28-0D, Thallium, compds. 7440-31-5D, Tin, inorg. and organic compds. 7440-33-7, Tungsten, biological studies 7440-33-7D, Tungsten, compds. 7440-36-0D, Antimony, compds., biological studies 7440-38-2D, Arsenic, inorg. and organic compds., biological studies 7440-39-3D, Barium, compds., biological studies 7440-41-7, Beryllium, biological studies 7440-41-7D, Beryllium, compds. 7440-43-9, Cadmium, biological studies 7440-47-3, Chromium, biological studies 7440-47-3D, Chromium, compds. and salts 7440-48-4, Cobalt, biological studies 7440-50-8, Copper, biological studies 7440-58-6, Hafnium, biological studies 7440-61-1, Uranium, biological studies 7440-61-1D, Uranium, compds. 7440-62-2, Vanadium, biological studies 7440-65-5, Yttrium, biological studies 7440-67-7D, Zirconium, compds. 7440-74-6, Indium, biological studies 7440-74-6D, Indium, compds. 7446-09-5, Sulfur dioxide, biological studies 7553-56-2, Iodine, biological studies 7572-29-4, Dichloroacetylene 7580-67-8, Lithium hydride 7616-94-6, Perchloryl fluoride 7631-86-9,

Silica, biological studies 7631-90-5, Sodium bisulfite 7637-07-2, Boron trifluoride, biological studies 7646-85-7, Zinc chloride, biological studies 7647-01-0, Hydrogen chloride, biological studies 7664-38-2, Phosphoric acid, biological studies 7664-39-3, Hydrofluoric acid, biological studies 7664-41-7, Ammonia, biological studies 7664-93-9, Sulfuric acid, biological studies 7681-57-4, Sodium metabisulfite 7697-37-2, Nitric acid, biological studies 7719-09-7, Thionyl chloride 7719-12-2, Phosphorus trichloride 7722-84-1, Hydrogen peroxide, biological studies 7722-88-5, Tetrasodium pyrophosphate 7723-14-0, Phosphorus, biological studies 7726-95-6, Bromine, biological studies 7727-43-7, Barium sulfate 7773-06-0, Ammonium sulfamate
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(exposure limits to airborne, in agricultural and construction and maritime industries, stds. for)

IT 7778-18-9, Calcium sulfate 7782-41-4, Fluorine, biological studies 7782-42-5, Graphite, biological studies 7782-49-2D, Selenium, compds. 7782-50-5, Chlorine, biological studies 7782-65-2, Germanium tetrahydride 7783-06-4, Hydrogen sulfide, biological studies 7783-07-5, Hydrogen selenide (H2Se) 7783-41-7, Oxygen difluoride 7783-54-2, Nitrogen trifluoride 7783-60-0, Sulfur tetrafluoride 7783-79-1, Selenium hexafluoride 7783-80-4, Tellurium hexafluoride 7784-42-1, Arsine 7786-34-7, Phosdrin 7789-30-2, Bromine pentafluoride 7790-91-2, Chlorine trifluoride 7803-51-2, Phosphine 7803-52-3, Stibine **7803-62-5**, Silicon tetrahydride, biological studies 8004-13-5 8022-00-2, Methyl demeton 8065-48-3, Demeton 9004-34-6, Cellulose, biological studies 9005-25-8, Starch, biological studies 9014-01-1, Subtilisin 10025-67-9, Sulfur monochloride 10025-87-3, Phosphorus oxychloride 10026-13-8, Phosphorus pentachloride 10028-15-6, Ozone, biological studies 10035-10-6, Hydrogen bromide, biological studies 10049-04-4, Chlorine dioxide 10102-43-9, Nitric oxide, biological studies 10102-44-0, Nitrogen dioxide, biological studies 10294-33-4, Boron tribromide 10546-01-7, Sulfur pentafluoride 11099-06-2, Ethyl silicate 11130-11-3 11130-12-4, Sodium borate pentahydrate 12079-65-1, Manganese cyclopentadienyl tricarbonyl 12108-13-3, Methylcyclopentadienyl manganese tricarbonyl 12125-02-9, Ammonium chloride, biological studies 12415-34-8, Emery 12604-58-9, Ferrovanadium 12789-03-6, Chlordane 13121-70-5, Cyhexatin 13397-24-5, Gypsum, biological studies 13463-39-3, Nickel carbonyl 13463-40-6, Iron pentacarbonyl 13463-67-7, Titanium dioxide, biological studies 13494-80-9, Tellurium, biological studies 13494-80-9D, Tellurium, compds. 13530-65-9, Zinc chromate 13717-00-5, Magnesite 14464-46-1, Cristobalite 14484-64-1, Ferbam 14807-96-6, Talc, biological studies 14808-60-7, Quartz, biological studies 15468-32-3, Tridymite 16219-75-3, Ethylidene norbornene 16752-77-5, Methomyl 16842-03-8, Cobalt hydrocarbonyl 17702-41-9, Decaborane 17804-35-2 19287-45-7, Diborane 19624-22-7, Pentaborane 20816-12-0, Osmium tetroxide 21087-64-9, Metribuzin 21351-79-1, Cesium hydroxide 22224-92-6, Fenamiphos 25013-15-4, Vinyl toluene 25154-54-5, Dinitrobenzene 25321-14-6, Dinitrotoluene 25551-13-7, Trimethylbenzene 25639-42-3, Methylcyclohexanol 26140-60-3, Terphenyl 26140-60-3D, Terphenyl, hydrogenated 26499-65-0, Plaster of Paris 26628-22-8, Sodium azide 26952-21-6, Isooctyl alcohol 29191-52-4, Anisidine 34590-94-8, Dipropylene glycol methyl ether 35400-43-2, Sulprofos 37264-96-3, Cobalt carbonyl 53496-15-4, sec-Amyl acetate 59355-75-8, MAPP 59763-75-6, Tantalum oxide 92414-44-3, Manganese tetroxide
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L64 ANSWER 22 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
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DOCUMENT NUMBER: 110:218230
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CORPORATE SOURCE: United States Occupational Safety and Health Administration, Washington, DC, 20210, USA
SOURCE: Federal Register (1989), 54(12, Bk. 2), 2332-983, 19 Jan 1989
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CC 59-5 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 4
IT 50-00-0, Formaldehyde, biological studies 50-29-3, biological studies 50-32-8, Benzo[a]pyrene, biological studies 50-78-2 53-96-3 54-11-5, Nicotine 55-38-9, Fenthion 55-63-0, Nitroglycerin 56-23-5, biological studies 56-38-2, Parathion **56-81-5**, 1,2,3-Propanetriol, biological studies 57-14-7, 1,1-Dimethylhydrazine 57-24-9, Strychnine 57-50-1, biological studies 57-57-8, 2-Oxetanone 58-89-9, Lindane 60-11-7, 4-Dimethylaminoazobenzene 60-29-7, Ethyl ether, biological studies 60-34-4, Methyl hydrazine 60-57-1, Dieldrin 61-82-5, Amitrole 62-53-3, Aniline, biological studies 62-73-7, Dichlorvos 62-74-8, Sodium fluoroacetate 62-75-9, N-Nitrosodimethylamine 63-25-2 64-17-5, Ethyl alcohol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methyl alcohol, biological studies 67-63-0, Isopropyl alcohol, biological studies 67-64-1, Acetone, biological studies 67-66-3, Chloroform, biological studies 67-72-1, Hexachloroethane 68-11-1, Thioglycolic acid, biological studies 68-12-2, Dimethylformamide, biological studies 71-23-8, n-Propyl alcohol, biological studies 71-36-3, n-Butyl alcohol, biological studies 71-43-2, Benzene, biological studies 71-55-6, Methyl chloroform 72-20-8, Endrin 72-43-5, Methoxychlor 74-83-9, Methyl bromide, biological studies 74-87-3, Methyl chloride, biological studies 74-88-4, biological studies 74-89-5, Methylamine, biological studies 74-90-8, Hydrogen cyanide, biological studies 74-93-1, Methyl mercaptan, biological studies 74-96-4, Ethyl bromide 74-97-5, Chlorobromomethane 74-98-6, Propane, biological studies 74-99-7, Methyl acetylene 75-00-3, Ethyl chloride 75-01-4, biological studies 75-04-7, Ethylamine, biological studies 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde, biological studies 75-08-1, Ethyl mercaptan 75-09-2, Methylene chloride, biological studies 75-12-7, Formamide, biological studies 75-15-0, Carbon disulfide, biological studies 75-21-8, Oxirane, biological studies 75-25-2, Bromoform 75-31-0, Isopropylamine, biological studies 75-34-3, 1,1-Dichloroethane 75-35-4, Vinylidene chloride, biological studies 75-43-4, Dichloromonofluoromethane 75-44-5, Phosgene 75-45-6, Chlorodifluoromethane 75-47-8, Iodoform 75-50-3, Trimethylamine, biological studies 75-52-5, Nitromethane, biological studies 75-55-8 75-56-9, biological studies 75-61-6, Difluorodibromomethane 75-63-8, Trifluorobromomethane 75-65-0, tert-Butyl alcohol, biological studies 75-69-4, Fluorotrichloromethane 75-71-8, Dichlorodifluoromethane 75-74-1, Tetramethyl lead 75-99-0, 2,2-Dichloropropionic acid 76-03-9, Trichloroacetic acid, biological studies 76-06-2, Chloropicrin 76-11-9, 1,1,1,2-Tetrachloro-2,2-difluoroethane 76-12-0,

1,1,2,2-Tetrachloro-1,2-difluoroethane 76-13-1, 1,1,2-Trichloro-1,2,2-trifluoroethane 76-15-3, Chloropentafluoroethane 76-22-2, Camphor 76-44-8 77-47-4, Hexachlorocyclopentadiene 77-73-6, Dicyclopentadiene 77-78-1, Dimethyl sulfate 78-00-2, Tetraethyl lead 78-30-8 78-34-2, Dioxathion 78-59-1, Isophorone 78-83-1, Isobutyl alcohol, biological studies 78-87-5, Propylene dichloride 78-92-2, sec-Butyl alcohol 78-93-3, 2-Butanone, biological studies 79-00-5, 1,1,2-Trichloroethane 79-01-6, biological studies 79-04-9, Chloroacetyl chloride 79-06-1, 2-Propenamide, biological studies 79-09-4, Propionic acid, biological studies 79-10-7, 2-Propenoic acid, biological studies 79-20-9, Methyl acetate 79-24-3, Nitroethane 79-27-6, Acetylene tetrabromide 79-34-5, 1,1,2,2,-Tetrachloroethane 79-41-4, biological studies 79-46-9, 2-Nitropropane 80-62-6 81-81-2, Warfarin 83-26-1, Pindone 83-79-4, Rotenone 84-66-2, Diethyl phthalate 84-74-2, Dibutyl phthalate 85-00-7 85-44-9, Phthalic anhydride 86-50-0, Azinphos-methyl 87-68-3, Hexachlorobutadiene 87-86-5, Pentachlorophenol 88-72-2, o-Nitrotoluene 88-89-1, Picric acid 89-72-5, o-sec-Butylphenol 90-04-0, o-Anisidine 91-20-3, Naphthalene, biological studies 91-59-8, β-Naphthylamine 91-94-1, 3,3'-Dichlorobenzidine 92-52-4, Diphenyl, biological studies 92-67-1, 4-Aminodiphenyl 92-84-2, Phenothiazine 92-87-5, Benzidine 92-93-3, 4-Nitrodiphenyl 93-76-5 94-36-0, Benzoyl peroxide, biological studies 94-75-7, biological studies 95-13-6, Indene 95-47-6, biological studies 95-48-7, 2-Methyl phenol, biological studies 95-49-8, o-Chlorotoluene 95-50-1, o-Dichlorobenzene 95-53-4, o-Toluidine, biological studies 96-12-8, 1,2-Dibromo-3-chloropropane 96-18-4, 1,2,3-Trichloropropane 96-22-0, Diethyl ketone 96-33-3 96-69-5, 4,4'-Thiobis(6-tert,butyl-m-cresol) 97-77-8, Disulfiram 98-00-0, Furfuryl alcohol 98-01-1, Furfural, biological studies 98-51-1, p-tert-Butyltoluene 98-82-8, Cumene 98-83-9, biological studies 98-95-3, Nitrobenzene, biological studies 99-08-1, m-Nitrotoluene 99-65-0, 1,3-Dinitrobenzene 99-99-0, p-Nitrotoluene 100-00-5, p-Nitrochlorobenzene 100-01-6, biological studies 100-25-4 100-37-8 100-41-4, Ethyl benzene, biological studies 100-42-5, biological studies 100-44-7, Benzyl chloride, biological studies 100-61-8, biological studies 100-63-0 100-74-3, N-Ethylmorpholine 101-14-4, 4,4'-Methylene bis(2-chloroaniline) 101-68-8 101-84-8, Phenyl ether 102-54-5, Dicyclopentadienyl iron 102-81-8 104-94-9, p-Anisidine 105-46-4, sec-Butyl acetate 105-60-2, biological studies 106-35-4, 3-Heptanone 106-42-3, p-Xylene, biological studies 106-44-5, 4-Methylphenol, biological studies 106-46-7, p-Dichlorobenzene 106-49-0, p-Toluidine, biological studies 106-50-3, p-Phenylene diamine, biological studies 106-51-4, 2,5-Cyclohexadiene-1,4-dione, biological studies 106-68-3, Ethyl amyl ketone 106-87-6 106-89-8, Epichlorohydrin, biological studies 106-92-3, Allyl glycidyl ether 106-93-4, Ethylene dibromide 106-97-8, Butane, biological studies 106-99-0, 1,3-Butadiene, biological studies 107-02-8, Acrolein, biological studies 107-05-1, Allyl chloride 107-06-2, Ethylene dichloride, biological studies 107-07-3, Ethylene chlorohydrin, biological studies 107-13-1, Acrylonitrile, biological studies 107-15-3, 1,2-Ethanediamine, biological studies 107-18-6, Allyl alcohol, biological studies 107-19-7, Propargyl alcohol 107-20-0, Chloroacetaldehyde 107-21-1, 1,2-Ethanediol, biological studies 107-30-2, Chloromethyl methyl ether 107-31-3, Methyl formate 107-41-5, Hexylene glycol 107-49-3, TEPP 107-66-4, Dibutyl phosphate 107-87-9, 2-Pentanone 108-03-2, 1-Nitropropane 108-05-4, Vinyl acetate, biological studies 108-10-1, Hexone 108-11-2, Methyl isobutyl carbinol 108-18-9, Diisopropylamine 108-20-3, Isopropyl ether 108-21-4, Isopropyl acetate 108-24-7, Acetic anhydride 108-31-6, 2,5-Furandione, biological studies 108-38-3, m-Xylene, biological studies 108-39-4,

3-Methylphenol, biological studies 108-44-1, m-Toluidine, biological studies 108-46-3, Resorcinol, biological studies 108-83-8, Diisobutyl ketone 108-84-9 108-87-2, Methylcyclohexane 108-88-3, biological studies 108-90-7, Chlorobenzene, biological studies 108-91-8, Cyclohexanamine, biological studies 108-93-0, Cyclohexanol, biological studies 108-94-1, Cyclohexanone, biological studies 108-95-2, Phenol, biological studies 108-98-5, Phenyl mercaptan, biological studies 109-59-1, 2-Isopropoxyethanol 109-60-4, n-Propyl acetate 109-66-0, Pentane, biological studies 109-73-9, Butylamine, biological studies 109-79-5, Butyl mercaptan 109-86-4, Methyl cellosolve
RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(air pollution by, occupational exposure to, stds. for, in USA)

IT 109-87-5, Methylal 109-89-7, Diethylamine, biological studies 109-94-4, Ethyl formate 109-99-9, Tetrahydrofuran, biological studies 110-12-3, Methyl isoamyl ketone 110-19-0, Isobutyl acetate 110-43-0, Methyl-n-amyl ketone 110-49-6 110-54-3, n-Hexane, biological studies 110-62-3, n-Valeraldehyde 110-80-5, 2-Ethoxyethanol 110-82-7, Cyclohexane, biological studies 110-83-8, Cyclohexene, biological studies 110-86-1, Pyridine, biological studies 110-91-8, Morpholine, biological studies 111-15-9, 2-Ethoxyethyl acetate 111-30-8, Pentanedial 111-40-0 111-42-2, Diethanolamine, biological studies 111-44-4 111-65-9, Octane, biological studies 111-76-2, 2-Butoxyethanol 111-84-2, Nonane 114-26-1, Propoxur 115-29-7, Endosulfan 115-77-5, Pentaerythritol, biological studies 115-86-6, Triphenyl phosphate 115-90-2, Fensulfothion 117-81-7 118-52-5, 1,3-Dichloro-5,5-dimethyl hydantoin 118-96-7, 2,4,6-Trinitrotoluene 120-80-9, Catechol, biological studies 120-82-1, 1,2,4-Trichlorobenzene 121-44-8, Triethylamine, biological studies 121-45-9, Trimethyl phosphite 121-69-7, biological studies 121-75-5, Malathion 121-82-4, Cyclonite 122-39-4, Diphenylamine, biological studies 122-60-1, Phenyl glycidyl ether 123-19-3, Dipropyl ketone 123-31-9, 1,4-Benzenediol, biological studies 123-42-2, Diacetone alcohol 123-51-3, Isoamyl alcohol 123-73-9 123-86-4, n-Butyl-acetate 123-91-1, 1,4-Dioxane, biological studies 123-92-2, Isoamyl acetate 124-38-9, Carbon dioxide, biological studies 124-40-3, Dimethylamine, biological studies 126-73-8, Tributyl phosphate, biological studies 126-98-7, Methylacrylonitrile 126-99-8, β-Chloroprene 127-18-4, Perchloroethylene, biological studies 127-19-5 128-37-0, 2,6-Di-tert-butyl-p-cresol, biological studies 131-11-3, Dimethylphthalate 133-06-2, Captan 134-32-7, 1-Naphthalenamine 136-78-7, Sesone 137-05-3, Methyl 2-cyanoacrylate 137-26-8, Thiram 138-22-7, n-Butyl lactate 140-88-5 141-32-2 141-43-5, biological studies 141-66-2, Dicrotophos 141-78-6, Ethyl acetate, biological studies 141-79-7, Mesityl oxide 142-64-3, Piperazine dihydrochloride 142-82-5, Heptane, biological studies 144-62-7, Ethanedioic acid, biological studies 148-01-6 150-76-5, 4-Methoxyphenol 151-56-4, Aziridine, biological studies 156-62-7, Calcium cyanamide 218-01-9, Chrysene 287-92-3, Cyclopentane 298-00-0, Methyl parathion 298-02-2, Phorate 298-04-4, Disulfoton 299-84-3, Ronnel 299-86-5, Crufomate 300-76-5, Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate 302-01-2, Hydrazine, biological studies 309-00-2, Aldrin 314-40-9, Bromacil 330-54-1, Diuron 333-41-5, Diazinon 334-88-3, Diazomethane 353-50-4, Carbonyl fluoride 409-21-2, Silicon carbide, biological studies 420-04-2, Cyanamide 463-51-4, Ketene 471-34-1, Carbonic acid calcium salt (1:1), biological studies 479-45-8, Tetryl 504-29-0, 2-Aminopyridine 506-77-4, Cyanogen chloride 509-14-8, Tetranitromethane 528-29-0, 1,2-Dinitrobenzene 532-27-4 534-52-1, Dinitro-o-cresol 540-59-0, 1,2-Dichloroethylene 540-88-5, tert-Butyl acetate 542-75-6, 1,3-Dichloropropene 542-88-1, Bis(Chloromethyl)

ether 542-92-7, Cyclopentadiene, biological studies 552-30-7 556-52-5, Glycidol 557-05-1, Zinc stearate 558-13-4, Carbon tetrabromide 563-12-2, Ethion 563-80-4, Methyl isopropyl ketone 583-60-8 584-84-9 591-78-6, 2-Hexanone 593-60-2, Vinyl bromide 594-42-3, Perchloromethyl mercaptan 594-72-9, 1,1-Dichloro-1-nitroethane 600-25-9, 1-Chloro-1-nitropropane 603-34-9, Triphenyl amine 624-83-9, Methyl isocyanate 626-17-5, 1,3-Benzenedicarbonitrile 627-13-4, n-Propyl nitrate 628-63-7, n-Amyl acetate 628-96-6, Ethylene glycol dinitrate 630-08-0, Carbon monoxide, biological studies 638-21-1, Phenylphosphine **681-84-5**, Methyl silicate 684-16-2, Hexafluoroacetone 768-52-5, N-Isopropylaniline 944-22-9, Fonofos 999-61-1, 2-Hydroxypropyl acrylate 1189-85-1, tert-Butyl chromate 1300-73-8, Xylidine 1303-86-2, Boron oxide 1303-96-4, Borax decahydrate 1304-82-1, Bismuth telluride 1305-62-0, Calcium hydroxide, biological studies 1305-78-8, Calcium oxide, biological studies 1309-37-1, Iron oxide, biological studies 1309-48-4, Magnesium oxide, biological studies 1310-58-3, Potassium hydroxide, biological studies 1310-73-2, Sodium hydroxide, biological studies 1314-13-2, Zinc oxide, biological studies 1314-62-1, Vanadium pentoxide, biological studies 1314-80-3, Phosphorus pentasulfide 1319-77-3, Cresol 1320-37-2, Dichlorotetrafluoroethane 1320-67-8, Propylene glycol monomethyl ether 1321-64-8, Pentachloronaphthalene 1321-65-9, Trichloronaphthalene 1321-74-0, Divinyl benzene, biological studies 1330-43-4, Anhydrous borax 1332-29-2, Tin oxide 1335-87-1, Hexachloronaphthalene 1335-88-2, Tetrachloronaphthalene 1344-28-1, α-Alumina, biological studies 1344-95-2, Calcium silicate 1477-55-0, 1,3-Benzenedimethanamine 1563-66-2, Carbofuran 1912-24-9 1929-82-4, 2-Chloro-6-trichloromethyl pyridine 2039-87-4, o-Chlorostyrene 2074-87-5, Cyanogen 2104-64-5 2179-59-1, Allyl propyl disulfide 2234-13-1, Octachloronaphthalene 2238-07-5, Diglycidyl ether 2425-06-1, Captafol 2426-08-6 2551-62-4, Sulfur hexafluoride 2698-41-1, o-Chlorobenzylidene malononitrile 2699-79-8, Sulfuryl fluoride 2921-88-2, Chlorpyrifos 2971-90-6, Clopidol 3333-52-6, Tetramethyl succinonitrile 3383-96-8, Temephos 3394-04-5 3689-24-5, Sulfotep 4016-14-2, Isopropyl glycidyl ether 4098-71-9, Isophorone diisocyanate 4170-30-3, Crotonaldehyde 4685-14-7 5124-30-1 6423-43-4, Propylene glycol dinitrate 6923-22-4, Monocrotophos 7429-90-5, Aluminum, biological studies 7429-90-5D, Aluminum, compds. 7439-89-6, Iron, biological studies 7439-89-6D, Iron, salts 7439-92-1, Lead, biological studies 7439-96-5, Manganese, biological studies 7439-96-5D, Manganese, compds. 7439-97-6, Mercury, biological studies 7439-97-6D, Mercury, compds. 7439-98-7, Molybdenum, biological studies 7439-98-7D, Molybdenum, compds. 7440-02-0, Nickel, biological studies 7440-02-0D, Nickel, compds. 7440-06-4, Platinum, biological studies 7440-06-4D, Platinum, salts 7440-16-6, Rhodium, biological studies 7440-16-6D, Rhodium, compds. 7440-21-3, Silicon, biological studies 7440-22-4, Silver, biological studies 7440-25-7, Tantalum, biological studies 7440-28-0D, Thallium, compds. 7440-31-5, Tin, biological studies 7440-31-5D, Tin, compds. 7440-33-7, Tungsten, biological studies 7440-33-7D, Tungsten, compds. 7440-36-0, Antimony, biological studies 7440-38-2D, Arsenic, inorg. and organic compds. 7440-39-3D, Barium, compds. 7440-41-7, Beryllium, biological studies 7440-41-7D, Beryllium, compds. 7440-43-9, Cadmium, biological studies 7440-47-3, Chromium, biological studies 7440-47-3D, Chromium, compds. 7440-48-4, Cobalt, biological studies 7440-50-8, Copper, biological studies 7440-58-6, Hafnium, biological studies 7440-61-1, Uranium, biological studies 7440-61-1D, Uranium, compds. 7440-62-2, Vanadium, biological studies 7440-65-5, Yttrium, biological studies 7440-67-7D, Zirconium, compds. 7440-74-6, Indium, biological studies 7440-74-6D, Indium, compds. 7446-09-5, Sulfur dioxide, biological studies 7553-56-2,

Iodine, biological studies 7572-29-4, Dichloroacetylene 7580-67-8, Lithium hydride 7616-94-6, Perchloryl fluoride 7631-86-9, Silica, biological studies
RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(air pollution by, occupational exposure to, stds. for, in USA)

IT 7631-90-5, Sodium bisulfite 7637-07-2, Boron trifluoride, biological studies 7646-85-7, Zinc chloride, biological studies 7647-01-0, Hydrogen chloride, biological studies 7664-38-2, Phosphoric acid, biological studies 7664-39-3, Hydrogen fluoride, biological studies 7664-41-7, Ammonia, biological studies 7664-93-9, Sulfuric acid, biological studies 7681-57-4, Sodium metabisulfite 7697-37-2, Nitric acid, biological studies 7719-09-7, Thionyl chloride 7719-12-2, Phosphorus trichloride 7722-84-1, Hydrogen peroxide, biological studies 7722-88-5, Tetrasodium pyrophosphate 7723-14-0, Phosphorus, biological studies 7726-95-6, Bromine, biological studies 7727-43-7, Barium sulfate 7738-94-5, Chromic acid (H2CrO4) 7773-06-0, Ammonium sulfamate 7778-18-9, Calcium sulfate 7782-41-4, Fluorine, biological studies 7782-42-5, Graphite, biological studies 7782-49-2D, Selenium, compds. 7782-50-5, Chlorine, biological studies 7782-65-2, Germanium tetrahydride 7783-06-4, Hydrogen sulfide, biological studies 7783-07-5, Hydrogen selenide 7783-41-7, Oxygen difluoride 7783-54-2, Nitrogen trifluoride 7783-60-0, Sulfur tetrafluoride 7783-79-1, Selenium hexafluoride 7783-80-4, Tellurium hexafluoride 7784-42-1, Arsine 7786-34-7, Phosdrin 7789-30-2, Bromine pentafluoride 7790-91-2, Chlorine trifluoride 7803-51-2, Phosphine 7803-52-3, Stibine **7803-62-5**, Silicon tetrahydride, biological studies 8001-35-2, Chlorinated camphene 8022-00-2, Methyl demeton 8065-48-3 9001-92-7, Proteinase 9004-34-6, Cellulose, biological studies 10025-67-9, Sulfur monochloride 10025-87-3, Phosphorus oxychloride 10026-13-8, Phosphorus pentachloride 10028-15-6, Ozone, biological studies 10035-10-6, Hydrogen bromide, biological studies 10049-04-4, Chlorine dioxide 10102-43-9, Nitric oxide, biological studies 10102-44-0, Nitrogen dioxide, biological studies 10210-68-1 10294-33-4, Boron tribromide 10546-01-7, Sulfur pentafluoride 11097-69-1, Aroclor 1254 11099-06-2, Ethyl silicate 12079-65-1, Manganese cyclopentadienyl tricarbonyl 12108-13-3, Methylcyclopentadienyl manganese tricarb onyl 12125-02-9, Ammonium chloride, biological studies 12179-04-3, Sodium tetraborate pentahydrate 12415-34-8, Emery 12604-58-9 12789-03-6, Chlordane 13121-70-5, Cyhexatin 13397-24-5, Gypsum, biological studies 13463-39-3, Nickel carbonyl 13463-40-6 13463-67-7, Titanium dioxide, biological studies 13494-80-9, Tellurium, biological studies 13494-80-9D, Tellurium, compds. 13530-65-9, Zinc chromate 13717-00-5, Magnesite 14464-46-1, Cristobalite 14484-64-1, Ferbam 14808-60-7, Quartz, biological studies 15468-32-3, Tridymite 16219-75-3 16752-77-5, Methomyl 16842-03-8, Cobalt hydrocarbonyl 17702-41-9, Decaborane 17804-35-2, Benomyl 19287-45-7, Diborane 19624-22-7, Pentaborane 20816-12-0 21087-64-9 21351-79-1, Cesium hydroxide (Cs(OH)) 22224-92-6, Fenamiphos 25013-15-4 25321-14-6, Dinitrotoluene 25551-13-7, Trimethyl benzene 25639-42-3, Methylcyclohexanol 26140-60-3, Terphenyl 26140-60-3D, Terphenyl, hydrogenated derivs. 26499-65-0, Plaster of Paris 26628-22-8, Sodium azide 26952-21-6, Isooctyl alcohol 27323-18-8, Chlorodiphenyl 31242-93-0 34590-94-8 35400-43-2 53496-15-4, sec-Amyl acetate 92414-44-3, Manganese tetroxide
RL: ADV (Adverse effect, including toxicity); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(air pollution by, occupational exposure to, stds. for, in USA)

L64 ANSWER 23 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:566699 CAPLUS
DOCUMENT NUMBER: 109:166699
TITLE: Capillary zone electrophoretic separation of peptides and proteins using low pH buffers in modified silica capillaries
AUTHOR(S): McCormick, Randy M.
CORPORATE SOURCE: Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Inc., Wilmington, DE, 19898, USA
SOURCE: Analytical Chemistry (1988), 60(21), 2322-8
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 Nov 1988
AB High-efficiency capillary zone electrophoresis (CZE) sepns. of peptides and proteins in modified silica capillaries were achieved at low pH aqueous buffers. Capillaries were modified with phosphate moieties from the separation buffer as well as with conventional silanes. Sepns. of proteins with mol. wts. ranging from 12,000 to 77,000 and pI values of 4.9-11 were achieved in <25 min. Mixts. of octapeptide homologs that differ by the addition of methylene groups to the amino acid side chains of the peptides were resolved. CZE also was used to sep. mixts. of proteins of highly conversed sequence that differ by a few amino acid substitutions in a total sequence of >100 amino acids. Effects of the magnitude of the applied potential on separation efficiency in CZE are discussed. The rate at which the voltage is introduced across the capillary was found to have a significant impact on the asymmetry and peak width of protein bands in CZE sepns.
CC 9-7 (Biochemical Methods)
IT **56-81-5DP**, Glycerol, reaction products with **silane** -derivatized silica capillary 79-06-1DP, Acrylamide, reaction products with silane-derivatized silica capillary 79-10-7DP, Acrylic acid, reaction products with silane-derivatized silica capillary 88-12-0DP, 1-Vinyl-2-pyrrolidinone, reaction products with silane-derivatized silica capillary 2530-85-0DP, reaction products with silica capillary 116698-58-9DP, reaction products with silica capillary
RL: PREP (Preparation)
(preparation of, for capillary zone electrophoresis of peptides and proteins)

L64 ANSWER 24 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:408159 CAPLUS
DOCUMENT NUMBER: 109:8159
TITLE: Resin coating compositions for primer surfacers for automobile
INVENTOR(S): Matsumura, Shoichi; Nanbu, Toshiro; Furukawa, Hisao; Kawamura, Yuzuru; Kawaguchi, Hirotoshi
PATENT ASSIGNEE(S): Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62295969	A2	19871223	JP 1986-137898	19860613
EP 302950	A1	19890215	EP 1987-111519	19870808
EP 302950	B1	19920422		
R: BE, DE, FR, GB, IT				

US 5753737	A	19980519	US 1996-761519	19961209
PRIORITY APPLN. INFO.:			JP 1986-137898	19860613
			US 1987-82172	B1 19870806
			US 1989-333765	B1 19890405
			US 1991-728306	B1 19910708

ED Entered STN: 09 Jul 1988

AB Room-temperature-cuable title compns. comprise hydrolyzable silyl group-containing vinyl polymers, NH2-containing silicones, hydrolyzable esters, and inorg. pigments. Thus, a copolymer of γ-methacryloxypropyltrimethoxysilane (I), Me methacrylate, Bu acrylate, stearyl methacrylate, and acrylamide was prepared and mixed in xylene with a reaction product of A 1100 and A 187, Me orthoacetate, I, talc, CaCO3, and TiO2 to give a primer, which when applied to steel sheets at room temperature hardened enough to be sanded after 1 h. A melamine/alkyd resin enamel surface coated with this primer and a urethane topcoat showed no blisters after 3 days at 50° and 98% humidity.

IC ICM C09D003-82
ICS C09D005-00

CC 42-10 (Coatings, Inks, and Related Products)

IT **56-81-5D**, Glycerin, alkyd resins, maleated and polymerized with hydrolyzable unsatd. **silanes** 80-62-6D, Methyl methacrylate, polymers with hydrolyzable silyl-containing vinyl monomers and unsatd. alkyd resins 85-44-9D, Phthalic anhydride, alkyd resins, maleated and polymerized with hydrolyzable unsatd. silanes 97-88-1D, n-Butyl methacrylate, polymers with hydrolyzable silyl-containing vinyl monomers and unsatd. alkyd resins 100-42-5D, Styrene, polymers with hydrolyzable silyl-containing vinyl monomers and unsatd. alkyd resins 108-31-6D, Maleic anhydride, alkyd resins, polymers with unsatd. hydrolyzable silanes 115-77-5D, Pentaerythritol, alkyd resins, maleated and polymerized with hydrolyzable unsatd. silanes 141-32-2D, Butyl acrylate, polymers with hydrolyzable silyl-containing vinyl monomers and unsatd. alkyd resins 919-30-2D, A 1100, reaction products with A 187 1445-45-0, Methyl orthoacetate 2530-83-8D, A 187, reaction products with A 1100 2530-85-0, γ-Methacryloxypropyltrimethoxysilane 2530-85-0D, γ-Methacryloxypropyltrimethoxysilane, polymers with vinyl monomers and unsatd. alkyd resins 82091-27-8 114975-14-3
RL: USES (Uses)
(primers containing, rapid-curing, for automotive repair coatings)

L64 ANSWER 25 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1983:199978 CAPLUS
DOCUMENT NUMBER:	98:199978
TITLE:	Nonprecondensed silicone-alkyd resins
INVENTOR(S):	Gauthier, Laura Anne; Legrow, Gary Edward
PATENT ASSIGNEE(S):	Dow Corning Corp. , USA
SOURCE:	Eur. Pat. Appl., 32 pp. CODEN: EPXXDW
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 75326	A1	19830330	EP 1982-108760	19820922
EP 75326	B1	19870121		
R: BE, DE, FR, GB				
US 4377676	A	19830322	US 1981-304724	19810923
CA 1185394	A1	19850409	CA 1982-406481	19820702

JP 58063720 A2 19830415 JP 1982-150634 19820830
BR 8205544 A 19830830 BR 1982-5544 19820922
PRIORITY APPLN. INFO.: US 1981-304724 A 19810923
ED Entered STN: 12 May 1984
AB Alkyd-silicone resins, useful as vehicles for outdoor paints, are prepared without premature gelation by reacting all of the ingredients simultaneously. Thus, cyclohexanedimethanol 140, trimethylolpropane 53, dehydrated castor oil fatty acid 218.7, and 70:30 mixture of Ph trimethoxysilane-Pr trimethoxysilane 345.6 g were heated to 100° while removing MeOH. Then 66.7 g isophthalic acid was added, and the mixture was heated to 230° to acid number 11. Then 66.7 g trimellitic anhydride was added, and the mixture was heated at 170° to acid number 55. The resulting resin solids 85.8, TiO2 54.7, Shepards Blue Number 3 pigment 12.8, NH4OH 6.2, 2-butoxyethanol 17.3, and water 104 g were milled 16 h. Then water 94, Cobalt Hydrocure 0.8, and Manganese Hydrocure 0.4 g were added to give a paint which was applied to an Al panel and air dried to give a film having tack free time 2.5 h, pencil hardness 3B, and 60° gloss 80.
IC C08G063-68; C08G077-00
CC 42-10 (Coatings, Inks, and Related Products)
IT **56-81-5D**, polymers with fatty acids, pentaerythritol, phthalic anhydride, and **silanes** 77-99-6D, polymers with castor oil fatty acids, cyclohexanedimethanol, in isophthalic acid 85-44-9D, polymers with fatty acids, glycerol, pentaerythritol and silanes 115-77-5D, polymers with fatty acids, glycerol, phthalic anhydride, and silanes 121-91-5D, polymers with castor oil fatty acids, cyclohexanedimethanol, silanes, and trimethylolpropane 124-04-9D, polymers with neopentyl glycol, silanes, and trimellitic anhydride 126-30-7D, polymers with adipic acid, silanes, and trimellitic anhydride 552-30-7D, polymers with adipic acid, neopentyl glycol, and silanes 1067-25-0D, polymers with fatty acids, glycerol, phthalic anhydride, pentaerthritol 1185-55-3D, polymers with fatty acids, glycerol, phthalic anhydride, pentaerthritol 2996-92-1D, polymers with fatty acids, glycerol, pentaerythritol, and phthalic anhydride 3027-21-2D, polymers with adipic acid, neopentyl glycol, and trimellitic anhydride 27193-25-5D, polymers with castor oil fatty acids, isophthalic acid, silanes, and trimethylolpropane 36221-34-8D, polymers with castor oil fatty acids, cyclohexanedimethanol, isophthalic acid, and trimellitic anhydride
RL: TEM (Technical or engineered material use); USES (Uses) (coatings)

L64 ANSWER 26 OF 40 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1973:44443 CAPLUS
DOCUMENT NUMBER: 78:44443
TITLE: Silanes, in bonding thermoplastic polymers to mineral surfaces
AUTHOR(S): Plueddemann, Edwin P.
CORPORATE SOURCE: Dow Corning Corp., Midland, MI, USA
SOURCE: Applied Polymer Symposia (1972), No. 19, 75-90
CODEN: APPSBX; ISSN: 0570-4898
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB Organic resins formed strong, water-resistant bonds to most mineral surfaces when modified with silanes. Interphase morphol. required a rigid or or a tacky interphase polymer; thus thermoplastic rubbers were bonded using silane-modified tackifying resin primers. Amine-functional silanes modified the tackifier-rubber diffusion; the silane-tackifiers were effective with the thermoplastic rubbers, but not with thermoplastic

resins or vulcanized rubber. XZ-8-5069 [silane containing (CH2)3NHCH2CH2NHCH2C6H4CH:CH-p.HCl groups] [34937-00-3] improved plastic adhesion, e.g. of polyethylene [9002-88-4] or polypropylene [9003-07-0] to metals, e.g. Al.

CC 36-6 (Plastics Manufacture and Processing)

IT **56-81-5D**, 1,2,3-Propanetriol, esters with resin acids
RL: USES (Uses)
(primers, containing **silanes**, for improved rubber-mineral surface adhesion)

L64 ANSWER 27 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2006-454403 [46] WPIX
DOC. NO. CPI: C2006-142042
TITLE: Manufacturing of thermoplastic elastomeric material useful as interface compatibilizing agent involves atom transfer radical polymerization of vinyl monomer in the presence of surface-treated vulcanized rubber in a subdivided form.
DERWENT CLASS: A18 A60
INVENTOR(S): CIARDELLI, F; COIAI, S; PASSAGLIA, E; PERUZZOTTI, F; RESMINI, E; SULCIS, R; TIRELLI, D
PATENT ASSIGNEE(S): (PIRE) PIRELLI & C SPA
COUNTRY COUNT: 109
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2006063606	A1	20060622	(200646)*	EN	46

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2006063606	A1	WO 2004-EP14313	20041216

PRIORITY APPLN. INFO: WO 2004-EP14313 20041216

AB WO2006063606 A UPAB: 20060719
NOVELTY - Manufacturing of a thermoplastic elastomeric material involves surface treating a vulcanized rubber in a subdivided form to provide radically transferable atoms or groups on its surface; grafting at least one vinyl monomer to the surface-treated vulcanized rubber in the presence of at least one transition metal compound and at least one ligand so as to obtain a vinyl polymer grafted onto the surface of the vulcanized rubber in a subdivided form.

USE - For manufacturing of thermoplastic elastomeric material which is useful as interface compatibilizing agent in blend with other polymers (e.g. polystyrene, styrene-butadiene rubbers, polyphenylene ether resins,

polycarbonates, and polyesters); and for molding various products e.g. packaging structures, housings, support structures, furnitures, molded articles, toys, architectural trims, belts, flooring and footpaths, flooring tiles, mats, shock absorbers sheetings, sound barriers, **membrane** protections, carpet underlay, automotive bumpers, wheel arch liner, seals, o-rings, gaskets watering systems, pipes or hoses materials, flower pots, building blocks, roofing materials and geomembranes (all claimed).

ADVANTAGE - The method provides thermoplastic elastomeric materials showing improved impact strength.

Dwg.0/0

L64 ANSWER 28 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2006-306354 [32] WPIX
TITLE: Water repellency-enhancing composition for cementitious material, e.g. cement, concrete, comprises solute portion having hydrophobic material and non-aqueous solvent portion having glycol ether.
DERWENT CLASS: A93 E17 L02
INVENTOR(S): ALDYKIEWICZ, A J; BENTUR, A; BERKE, N S; OU, C
PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R
COUNTRY COUNT: 112
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2006041698	A1	20060420	(200632)*	EN	23

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU LV MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2006041698	A1	WO 2005-US34931	20050928

PRIORITY APPLN. INFO: US 2004-615664P 20041004

AB WO2006041698 A UPAB: 20060523

NOVELTY - A water repellency-enhancing composition comprises a solute portion having hydrophobic material(s) to enhance water repellency in a cementitious material; and a non-aqueous solvent portion having glycol ether(s) to inhibit drying shrinkage in a cementitious material. The solute and solvent in a ratio of 95:5 - 5:95 are mixed in the form of a nonaqueous solution or in the form of an emulsion wherein water is present as a non-continuous phase.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for modifying a cementitious material comprising combining a hydratable cementitious binder with the composition.

USE - For use in a cementitious material (claimed), e.g. cement, masonry cement, concrete.

ADVANTAGE - The invention lowers the moisture permeability in cementitious materials to the point at which an externally-applied waterproofing coating or **membrane** is eliminated to achieve a

reduction of materials and labor expense. The invention provides better air level management in cementitious materials without requiring that defoamers be added. The combination of solute and non-aqueous solvent results in a larger temperature stability and eliminates the need for heated storage in colder environments. By avoiding the use of a large water portion, manufacturers can avoid the additional step required for making the aqueous emulsion or dispersion as well as the costs of surfactants and stabilizers. Further, the cost of shipping water that constitutes the bulk of the aqueous emulsion or suspension will be decreased. Furthermore, with little or no water content, the composition of the invention will be less hospitable to bacteria and other microorganisms.
Dwg.0/0

L64 ANSWER 29 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2006-222072 [23] WPIX
DOC. NO. NON-CPI: N2006-190732
DOC. NO. CPI: C2006-072973
TITLE: Manufacture of macrocyclic compound, useful in e.g. pharmaceuticals, comprises modulating oligomerization reactions in reaction medium to reduce formation of undesired oligomers by reactants and reduce separation of undesired oligomers.
DERWENT CLASS: B02 B04 E13 J04 U11 U12
INVENTOR(S): FOWLER, B T; JOHNSON, T E
PATENT ASSIGNEE(S): (FOWL-I) FOWLER B T; (JOHN-I) JOHNSON T E
COUNTRY COUNT: 109
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2006025859	A2	20060309	(200623)*	EN	85

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2006025859	A2	WO 2005-US5028	20050217

PRIORITY APPLN. INFO: US 2005-59796 20050217; US 2004-545131P 20040217
AB WO2006025859 A UPAB: 20060405
NOVELTY - Manufacture of at least one macrocyclic compound, comprises:
(1) providing a reaction system comprising one or more reactants in a reaction medium; and
(2) modulating oligomerization reactions in the reaction medium, so as to reduce formation of the undesired oligomers by the reactants and/or to reduce separation of the undesired oligomers from the reaction medium, relative to corresponding unmodulated oligomerization reactions.
DETAILED DESCRIPTION - Process for manufacturing at least one macrocyclic compound, comprises:

(1) providing a reaction system comprising one or more reactants in a reaction medium (where the reactants are capable of forming the macrocyclic compound or its intermediate in the reaction medium at a first set of reaction conditions through at least one desired reaction pathway that includes at least cyclization reactions, and the reactants are further capable of forming undesired oligomers at the first set of reaction conditions through at least one undesired reaction pathway that includes undesired oligomerization reactions); and

(2) modulating oligomerization reactions in the reaction medium, so as to reduce formation of the undesired oligomers by the reactants and/or to reduce separation of the undesired oligomers from the reaction medium, relative to corresponding unmodulated oligomerization reactions (where the intermediate macrocyclic compound that is formed is modified to form the macrocyclic compound).

INDEPENDENT CLAIMS are also included for:

(1) a reaction composition (II) for forming at least one macrocyclic compound, comprising: one or more reactants (where the reactants are capable of forming the macrocyclic compound at a first set of reaction conditions through at least one desired reaction pathway that includes at least cyclization reactions, and the reactants are further capable of forming undesired oligomers at the first set of reaction conditions through at least one undesired reaction pathway that includes undesired oligomerization reactions); one or more reacting solvents for dissolving the reactants; and one or more oligomerization control additives for modulating oligomerization reactions of the reactants by reducing formation of the undesired oligomers and/or separation of the undesired oligomers from the reaction composition, relative to a corresponding reaction composition lacking the oligomerization control additives;

(2) a system (III) for manufacturing at least one macrocyclic compound, comprising at lease one reaction zone having: one or more supply vessels for supplying one or more reactants and/or one or more solvents (where the reactants are capable of forming the macrocyclic compound in a reaction medium comprising the solvents at a first set of reaction conditions through at least one desired reaction pathway that includes at least cyclization reactions, and the reactants are further capable of forming undesired oligomers at the first set of reaction conditions through at least one undesired reaction pathway that includes undesirable oligomerization reactions), a reaction chamber coupled with the supply vessels for receiving the reactants and solvents and effectuating reactions of the reactants to form the macrocyclic compound, and an oligomerization modulation unit for modulating oligomerization reactions of the reactants in the reaction chamber, so as to reduce formation of undesired oligomers by the reactants or to reduce separation of the undesired oligomers from the reaction medium, relative to corresponding unmodulated oligomerization reactions; and

(3) a process for synthesizing a macrocyclic compound through cyclization reaction, by using an oligomerization control agent to control undesired oligomerization reactions that compete with the cyclization reaction.

USE - The invention deals with the preparation of macrocyclic compounds (i.e. porphyrinogen, porphyrin, macrocyclic aminomethylphosphine compound, macrocyclic imine compound, macrocyclic boronate, macrocyclic calix(4)pyrrole compound, macrocyclic crown ether, cyclic peptide compound, bicyclic imidazolium-linked compound, macrocyclic lactone compound, arylene ethynylene macrocyclic compound, macrocyclic resorcinarene compound, macrocyclic heteroheptaphyrin compound, macrocyclic aromatic thioether sulfone compound and macrocyclic dibutyltin dicarboxylate compound) (claimed) that are useful in pharmaceuticals, nanotechnology and other industries.

ADVANTAGE - The method increases the production yield and the

volumetric production efficiency of a wide variety of different classes of macrocyclic compounds.
Dwg.0/20

L64 ANSWER 30 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2006-065674 [07] WPIX
DOC. NO. CPI: C2006-023990
TITLE: Biocompatible composition comprising amniotic **membrane** treated with polymer or crosslinking agent to enhance **membrane** rigidity, useful for producing shaped implantable or insertable medical devices.
DERWENT CLASS: A18 A28 A96 B07 D16 D22 P34 P81
INVENTOR(S): PEYMAN, G A
PATENT ASSIGNEE(S): (PEYM-I) PEYMAN G A; (MINU-N) MINU LLC
COUNTRY COUNT: 111
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2005287223	A1	20051229	(200607)*		6
WO 2006002128	A1	20060105	(200607)	EN	

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005287223	A1	US 2004-874724	20040623
WO 2006002128	A1	WO 2005-US21859	20050617

PRIORITY APPLN. INFO: US 2004-874724 20040623
AB US2005287223 A UPAB: 20060201
NOVELTY - A biocompatible composition (C1) comprises an isolated amniotic **membrane** treated with one or more consistency-modifying components sufficient to enhance **membrane** rigidity of a non-treated amniotic **membrane**, and one or more excipients.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(1) an insertable or implantable medical device (I) comprising the composition, where the device is preferably shaped for insertion or implantation at an anatomical site;
(3) forming (M1) a biocompatible device, by shaping an amniotic **membrane**-polymer composition with enhanced rigidity to fit an anatomical site requiring the device to form an implantable or insertable form-fitting device;
(4) reducing (M2) a proliferative response to an implanted or inserted synthetic medical device, by providing a portion of the synthetic medical device with an isolated amniotic **membrane** composition treated to have enhanced **membrane** rigidity to provide a physiological surface; and
(5) providing (M3) a biocompatible implantable or insertable device, by enhancing rigidity of an isolated amniotic **membrane** by

providing a consistency-modifying component to the isolated amniotic **membrane** in a concentration sufficient to enhance rigidity of the amniotic **membrane**, and forming a three-dimensional biocompatible implantable or insertable device from the **membrane** with enhanced rigidity.

USE - The composition is useful in forming a medical device such as an ocular shunt, a (therapeutic, refractive, intraocular) contact lens, or a corneal lens inlay. The **membrane** may form the device or may be contained on at least a portion of the device without suturing. The device may comprise a drug. The composition is useful for reducing a proliferative response to an implanted or inserted medical device.

ADVANTAGE - (C1) has enhanced rigidity allowing it to be molded, cured and shaped to form a free-standing device such as a shunt, vessel or contact lens. The modified **membrane** is less prone to tearing on manipulation than untreated **membranes.**

Dwg.0/0

L64 ANSWER 31 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-807818 [82] WPIX
DOC. NO. NON-CPI: N2005-669648
DOC. NO. CPI: C2005-248356
TITLE: Antimicrobial article e.g. wound dressing and surgical tapes/drapes, comprises antimicrobial agent-comprising adhesive layer bonded to surface of thermoplastic polymer layer, to migrate antimicrobial to polymeric layer.
DERWENT CLASS: A96 D22 P32 P34
INVENTOR(S): GRYSKA, S H; HOBBS, T R; LUCAST, D H; SEBASTIAN, J M
PATENT ASSIGNEE(S): (MINN) 3M INNOVATIVE PROPERTIES CO
COUNTRY COUNT: 110
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2005249791	A1	20051110	(200582)*		21
WO 2005110082	A2	20051124	(200582)	EN	

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005249791	A1	US 2004-841858	20040507
WO 2005110082	A2	WO 2005-US15826	20050506

PRIORITY APPLN. INFO: US 2004-841858 20040507

AB US2005249791 A UPAB: 20051222

NOVELTY - An antimicrobial article (100) comprises a thermoplastic polymer layer (TPL) (110) having a surface-I and a surface-II ((120,125), and adhesive layer bonded to surface-II. The adhesive layer comprises an antimicrobial agent that migrates to the surface-I of the polymeric layer.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a multilayered article comprising several antimicrobial articles;
(2) a method for providing an antimicrobial article comprising thermoplastic polymer layer and adhesive layer. The method involves (a) dispersing antimicrobial agent(s) into an adhesive layer, and (b) adhering the adhesive layer to thermoplastic polymer layer. The adhesive layer provides an antimicrobial agent reservoir for the polymer layer;
(3) wound dressing comprising the antimicrobial article; and
(4) a food preparation surface comprising the antimicrobial article.
USE - As wound dressing, disposable surface for food preparation (claimed) and handling, surgical tapes and surgical drapes.
ADVANTAGE - The antimicrobial agent reservoir in the adhesive layer migrates into the polymer layer to exhibit antimicrobial property and replenishes antimicrobial agent, which is lost, degraded or rendered ineffective through use of exposure. The articles provide antimicrobial activity for long period of time. The surfactant enhances the migration and/or efficacy of the antimicrobial agents.
DESCRIPTION OF DRAWING(S) - The figure shows the cross sectional view of the antimicrobial article.
antimicrobial article 100
thermoplastic polymer layer 110
major surfaces 120,125,150
pressure sensitive adhesive layer 130
release layer 140
Dwg.1/1

L64 ANSWER 32 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-324453 [34] WPIX
DOC. NO. CPI: C2005-101359
TITLE: Formation of film on biological surface, e.g. animal skin or flora, comprises mixing specified amounts of alkylene trialkoxysilyl terminated polysiloxane, alkoxysilane, catalyst, filler, and volatile diluent to form formulation.
DERWENT CLASS: A14 A17 A26 A96 B07 C07 D21 D22
INVENTOR(S): GANTNER, D; THOMAS, X
PATENT ASSIGNEE(S): (DOWO) DOW CORNING CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
GB 2407496	A	20050504	(200534)*		26

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
GB 2407496	A	GB 2003-24986	20031027

PRIORITY APPLN. INFO: GB 2003-24986 20031027
AB GB 2407496 A UPAB: 20050527
NOVELTY - Forming a film on a biological surface by, mixing (%, by weight) alkylene trialkoxysilyl terminated polysiloxane (5-70), alkoxysilane (0-5), catalyst (0.01-5), filler (0-25), and volatile diluent (1-94.99) to form a formulation; and applying the formulation into a biological surface, is new. The formulation cures in situ on the biological surface to form the film.
USE - The invention is for forming film on biological surface, e.g. animal skin, hair, teeth, eyes, mucous **membranes**, or veterinary

application. The film serves in a capacity of topical drug delivery systems, masking systems for skin protection dermal treatments, wound dressings and bandages for minor wounds, burns, acute and chronic wounds, skin sealants, skin protective films, scar treatments, exfoliation and hair remover products, deodorizing films, antiperspirant active and fragrance delivery systems, and anti-wrinkle patches and moisturizing masks. It can be used in topical therapies, wound care, surgical closure, scar care, underarm care, foot care, body and face skin care, cosmetics, make-up, and foundations. (All claimed.)

ADVANTAGE - The invention allows simple formation of film on a substrate. It enables the composition to be formed into a wide variety of shapes, and provides combination of bioadhesion, release rate, and release profile. It does not involve severe conditions, such as high temperatures or pressure that might damage any active agents or substrates used.

Dwg.0/0

L64 ANSWER 33 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-269077 [25] WPIX
CROSS REFERENCE: 2004-257207 [24]
DOC. NO. CPI: C2004-104733
TITLE: Device useful for immobilizing biological material, comprises polymer substrate layers deposited on a rigid support, with biological immobilizing properties preferably for protein or nucleic acid.
DERWENT CLASS: A89 B04 D16
INVENTOR(S): DOWD, R; MONTAGU, J I; ROOT, D
PATENT ASSIGNEE(S): (CLIN-N) CLINICAL MICROARRAYS INC; (MONT-I) MONTAGU J I
COUNTRY COUNT: 106
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004018623	A2	20040304	(200425)*	EN	76
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
AU 2003269968	A1	20040311	(200457)		
EP 1546721	A2	20050629	(200543)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
JP 2005535909	W	20051124	(200581)		56
AU 2003269968	A8	20051027	(200624)		
US 2006134606	A1	20060622	(200642)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004018623	A2	WO 2003-US25685	20030818
AU 2003269968	A1	AU 2003-269968	20030818
EP 1546721	A2	EP 2003-751862	20030818
		WO 2003-US25685	20030818
JP 2005535909	W	WO 2003-US25685	20030818
		JP 2005-501757	20030818
AU 2003269968	A8	AU 2003-269968	20030818
US 2006134606	A1 Provisional	US 2002-404237P	20020816

Provisional	US 2002-430299P	20021202
Provisional	US 2003-476512P	20030606
	WO 2003-US25685	20030818
	US 2005-524614	20051102

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003269968	A1 Based on	WO 2004018623
EP 1546721	A2 Based on	WO 2004018623
JP 2005535909	W Based on	WO 2004018623
AU 2003269968	A8 Based on	WO 2004018623

PRIORITY APPLN. INFO: US 2003-476512P 20030606; US
2002-404237P 20020816; US
2002-430299P 20021202; US
2005-524614 20051102

AB WO2004018623 A UPAB: 20060703

NOVELTY - A device (I) for immobilizing biological material comprising three polymer substrate layers (II) having biological immobilizing properties preferably for protein or nucleic acid, where (II) is deposited on a rigid support (III), and has an outer deposit-receiving region exposed to receive the biological material, and (II) is ultra-thin, having a thickness tut less than 5 micron.

DETAILED DESCRIPTION - A device (I) for immobilizing biological material comprising (a) three polymer substrate layers (II) having biological immobilizing properties preferably for protein or nucleic acid, where (II) is deposited on a rigid support (III), and has an outer deposit-receiving region exposed to receive the biological material, and (II) is ultra-thin, having a thickness tut less than 5 micron, (b) comprising (II), and (III) which defines a straight support surface e.g., planar or cylindrical, where (II) is a drawn coating (910) applied directly or indirectly to the rigid material in the direction of the straight surface, preferably drawn substantially according to a substrate coating station (CS) in which the tank holds a composition for producing a drawn film or **membrane** substrate layer on a microscope slide (900), preferably there is one or more of three intervening layers (IV) which lies between (II) and (III), where (IV) is adherently joined on each of its oppositely directed faces to substance of (I) and the immediately adjacent materials on opposite sides of (IV) are not as adhesively compatible with each other as each is with (IV), (c) comprising (II), (III) and (IV), where (IV) is at least partially opaque to radiation employed to stimulate emission from the biological material, and limiting or preventing transmission of radiation from (III), (d) comprising (II), (III) and (IV), where (IV) comprises an electrically conductive layer, for instance, the electrically conductive layer is associated with one or more electrical terminals and the conductive layer and the electrical terminals are constructed and arranged to provide a potential to the receiving surface of (I) to promote binding or rejection of material exposed to the outer deposit-receiving surface of (II), or (e) comprising (II) and (III), where the deposit-receiving region of (II) is in a surface-treated state for enhanced adhesion of deposits of biological material on it, e.g., the surface treatment is provided by a corona treater.

INDEPENDENT CLAIMS are also included for the following:

(1) forming (M1) device for immobilizing biological material, involves applying directly or indirectly to (III) a fluid containing the polymer of (II) under conditions to form (II), preferably by drawing (III) from a bath of coating composition (904); and

(2) conducting (M2) an assay involves providing (I) formed by (M1),

applying an array of spots of bio-material to the substrate, conducting an assay which tags at least some of the spots with a fluorescent label, and after washing the array, reading the array by fluorescent detection, preferably the assay is based on the protein-protein interaction, or involves an array comprising nucleic acid or other genetic material, or comprising viruses, peptides, antibodies, receptors, cDNA clones, DNA probes, oligonucleotides including synthetic oligonucleotides, PCR products, or the array comprising plant, animal, human, fungal, bacterial cells, malignant cells or cells from biopsy tissue.

USE - (I) is useful for immobilizing biological materials such as protein or nucleic acid on substrate layers (claimed).

DESCRIPTION OF DRAWING(S) - The figure shows formation of micro-porous **membrane**.

slides 900

coating composition 904

slides drawn in translation direction 906

coating 910

Dwg.17/34

L64 ANSWER 34 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-190596 [18] WPIX

CROSS REFERENCE: 1998-388071 [33]

DOC. NO. CPI: C2004-075090

TITLE: Polysulfone semipermeable **membrane** for liquid separation processes, e.g. microfiltration, comprises mixture of ultra-high-molecular-weight hydrophilic polymer, polysulfone compound and solvent.

DERWENT CLASS: A14 A26 A32 A88 D15 F01 J01

INVENTOR(S): DE, D; HAN, W; JORDAN, D; KETTERER, M; LEE, J; NGUYEN, T; WASHINGTON, G

PATENT ASSIGNEE(S): (DEDD-I) DE D; (HANW-I) HAN W; (JORD-I) JORDAN D; (KETT-I) KETTERER M; (LEEJ-I) LEE J; (NGUY-I) NGUYEN T; (WASH-I) WASHINGTON G; (BAXT) BAXTER HEALTHCARE SA; (BAXT) BAXTER INT INC

COUNTRY COUNT: 108

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2004026315	A1	20040212	(200418)*		20
WO 2004058385	A1	20040715	(200446)	EN	
RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW					
AU 2003301102	A1	20040722	(200476)		
EP 1572331	A1	20050914	(200560)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
BR 2003017533	A	20051122	(200581)		
MX 2005006768	A1	20050901	(200617)		
JP 2006511330	W	20060406	(200625)		32
CN 1729044	A	20060201	(200643)		
KR 2005086929	A	20050830	(200644)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2004026315	A1 Div ex	US 1997-932680	19970918
	Cont of	US 1999-317657	19990524
	CIP of	US 2001-767558	20010122
		US 2002-327564	20021220
WO 2004058385	A1	WO 2003-US40499	20031218
AU 2003301102	A1	AU 2003-301102	20031218
EP 1572331	A1	EP 2003-814186	20031218
		WO 2003-US40499	20031218
BR 2003017533	A	BR 2003-17533	20031218
		WO 2003-US40499	20031218
MX 2005006768	A1	WO 2003-US40499	20031218
		MX 2005-6768	20050620
JP 2006511330	W	WO 2003-US40499	20031218
		JP 2004-563792	20031218
CN 1729044	A	CN 2003-80107054	20031218
KR 2005086929	A	WO 2003-US40499	20031218
		KR 2005-711649	20050620

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 2004026315	A1 Cont of	US 6218441
AU 2003301102	A1 Based on	WO 2004058385
EP 1572331	A1 Based on	WO 2004058385
BR 2003017533	A Based on	WO 2004058385
MX 2005006768	A1 Based on	WO 2004058385
JP 2006511330	W Based on	WO 2004058385
KR 2005086929	A Based on	WO 2004058385

PRIORITY APPLN. INFO: US 2002-327564 20021220; US
1997-932680 19970918; US
1999-317657 19990524; US
2001-767558 20010122

AB US2004026315 A UPAB: 20060711
NOVELTY - A polysulfone semipermeable **membrane** comprises a mixture of an ultra-high-molecular-weight hydrophilic polymer, polysulfone compound and a solvent for the polysulfone compound. It has homogeneous structure such that it has a uniform structure.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a melt spinning process for making a polysulfone semipermeable **membrane** comprising forming a composition including a polysulfone compound, a solvent for the polysulfone compound, ultra-high-molecular-weight hydrophilic polymer, and a non-solvent for the polysulfone compound, where the solvent and non-solvent are present in the composition in a ratio to form a semipermeable **membrane** useful for a liquid separation process; heating the composition to a temperature at which the composition is a homogeneous liquid; extruding the homogeneous liquid to form an extrudate; and thermal quenching the extrudate to cause a phase separation and to form a semipermeable **membrane.**

USE - For liquid separation processes, e.g. microfiltration, ultrafiltration, dialysis and reverse osmosis.

ADVANTAGE - The invented polysulfone semipermeable **membrane** minimizes toxic waste by-products. It has uniform structure throughout the thickness dimension so that the entire thickness dimension controls the permeability of the **membrane.**

DESCRIPTION OF DRAWING(S) - The figure illustrates a scanning electron microscope photograph of a cross-section of polysulfone

hollow-fiber **membrane.**
Dwg.6/8

L64 ANSWER 35 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-229501 [22] WPIX
DOC. NO. CPI: C2004-090191
TITLE: A method of broadening the UV absorption spectrum of an organic UVA filter used in cosmetic composition to protect against solar radiation by immobilizing it in a matrix produced by **sol-gel** from a silicon alkoxide and a surfactant.
DERWENT CLASS: A96 D21 E19
INVENTOR(S): CHODOROWSKI, K S; QUINN, F X
PATENT ASSIGNEE(S): (OREA) L'OREAL SA
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
FR 2842419	A1	20040123 (200422)*			33

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2842419	A1	FR 2002-9211	20020719

PRIORITY APPLN. INFO: FR 2002-9211 20020719
AB FR 2842419 A UPAB: 20040331
NOVELTY - A method of broadening the absorption spectrum of an organic UV filter active at least in UVA by immobilizing it in a matrix produced by the **sol-gel** route from a mixture of one or more silicon alkoxides, one or more surfactants and water.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a method of **sol-gel** preparation of a material containing an organic UVA filter by mixing the filter, a silicon alkoxide, a surfactant and water in sufficient quantity for the partial or total hydrolysis of the silicon alkoxide and its condensation in the absence of organic solvent, for the material produced by the method and for a cosmetic and/or dermatological composition comprising the material.
USE - The material is used to protect the skin from solar radiation.
ADVANTAGE - The range of the filter is extended to cover a large spectrum of wavelengths from 280 to 400 nm.
Dwg.0/3

L64 ANSWER 36 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-090658 [09] WPIX
DOC. NO. NON-CPI: N2004-072715
DOC. NO. CPI: C2004-036789
TITLE: Preparing organic polyol silanes useful for preparing silica monoliths, by combining an alkoxysilane with organic polyols to produce polyol-substituted silanes, alcohols and optionally, removing alkoxy-derived alcohols.
DERWENT CLASS: A96 B04 D16 E11 J04 S03
INVENTOR(S): BRENNAN, J D; BROOK, M A; CHEN, Y
PATENT ASSIGNEE(S): (BREN-I) BRENNAN J D; (BROO-I) BROOK M A; (CHEN-I) CHEN Y; (UYMC-N) UNIV MCMASTER
COUNTRY COUNT: 104

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003102001	A1	20031211	(200409)*	EN	65
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
US 2004034203	A1	20040219	(200414)		
AU 2003229206	A1	20031219	(200449)		
EP 1509533	A1	20050302	(200517)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
JP 2005528445	W	20050922	(200563)		38

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003102001	A1	WO 2003-CA790	20030602
US 2004034203	A1 Provisional	US 2002-384084P	20020531
		US 2003-449511	20030602
AU 2003229206	A1	AU 2003-229206	20030602
EP 1509533	A1	EP 2003-724739	20030602
		WO 2003-CA790	20030602
JP 2005528445	W	WO 2003-CA790	20030602
		JP 2004-509692	20030602

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003229206	A1 Based on	WO 2003102001
EP 1509533	A1 Based on	WO 2003102001
JP 2005528445	W Based on	WO 2003102001

PRIORITY APPLN. INFO: US 2002-384084P 20020531; US 2003-449511 20030602

AB WO2003102001 A UPAB: 20040520

NOVELTY - Preparing (M1) organic polyol silanes (I) involves combining an alkoxysilane (II) with one or more organic polyols (III) under conditions sufficient for the reaction of (II) with (III) to produce polyol-substituted silanes and alcohols without the use of a catalyst and optionally, removing the alkoxy-derived alcohols.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) (I) prepared by using (M1);

(2) a silica monolith (IV) prepared using (I);

(3) quantitatively or qualitatively detecting (M2) a test substance that reacts with or whose reaction is catalyzed by an active biomolecule, where the active biomolecule is encapsulated within (IV), involves preparing (IV) comprising the active biomolecule entrapped within a silica matrix prepared using (I), bringing the biomolecule-comprising (IV) into contact with a gas or aqueous solution comprising the test substance, and quantitatively or qualitatively detecting, observing or measuring the change in one or more optical characteristics in the biomolecule entrapped

within (IV);

(4) long term storing of biomolecule, involves preparing (IV) comprising the biomolecule entrapped within a silica matrix and storing the monolith;

(5) preparing (M3) a chromatographic column, involves placing a polyol silane precursor prepared using (M1) in a column, optionally in the presence of one or more additives and/or a biomolecule, and hydrolyzing and condensing the polyol silane precursor in the column; and

(6) a chromatographic column comprising (IV) prepared using (M3).

USE - (M1) is useful for preparing organic polyol silanes. (I) is useful for preparing silica monoliths which involves hydrolyzing and condensing (I) at a pH suitable for the preparation of (IV) and allowing a gel to form. The suitable pH is in the range of 5.5-11. The hydrophilic polymer is chosen from polyols, polysaccharides and PEO or preferably PEO. (I) is hydrolyzed and condensed in the presence of a biomolecule which is chosen from proteins, peptides, DNA, RNA and host cells. The biomolecule is included in a buffer used to adjust the pH such that it is suitable for the preparation of (IV).

(IV) comprising an active biomolecule entrapped is useful for quantitatively or qualitatively detecting a test substance that reacts with or whose reaction is catalyzed by the encapsulated active biomolecule. (IV) is also useful for long term storage of a biomolecule in a silica matrix (claimed).

DESCRIPTION OF DRAWING(S) - The figure shows a graph representing the relationship between the gel time and initial pH when **diglycerylsilane** is used as the silica precursor.

Dwg.2/11

L64 ANSWER 37 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-411204 [35] WPIX
DOC. NO. CPI: C2000-124474
TITLE: Abrasive resistant coating composition for substrates e.g. of metal, consists of hybrid network of inorganic silane-functional metal alkoxide and organic silane.
DERWENT CLASS: A82 E11 G02
INVENTOR(S): JORDENS, K J; WEN, J; WILKES, G L
PATENT ASSIGNEE(S): (VIRG) VIRGINIA TECH INTELLECTUAL PROPERTIES
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6072018	A	20000606 (200035)*			10

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6072018	A Provisional	US 1996-27408P	19960930
		US 1997-882101	19970625

PRIORITY APPLN. INFO: US 1996-27408P 19960930; US 1997-882101 19970625

AB US 6072018 A UPAB: 20000725

NOVELTY - Abrasive resistant coating compositions containing a metal alkoxides and an organic silane-functional compound, **sol-gel** processed to form a hybrid network.

DETAILED DESCRIPTION - An abrasive-resistant coating for a substrate, comprises a coating of cured organic/inorganic hybrid network formed by

sol-gel co-condensation of:
(1) a metal alkoxide of tetramethoxysilane or tetraethoxysilane, and
(2) an isocyanate-, a di- or tri-amine-, an aliphatic- or aromatic-diol-, or a triol-functional organic silane.
USE - Coating polymeric materials or metals, especially transparent polymeric materials e.g. building and air-craft windows, automobile glazing, glasses, optical lenses etc.
ADVANTAGE - Coatings are durable as optical abrasion resistance, hot-wet resistance and UV resistance are improved.
Dwg.0/2

L64 ANSWER 38 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1999-633910 [54] WPIX
DOC. NO. CPI: C1999-185166
TITLE: Ultrasound contrast agent dispersion containing injectable aqueous gas dispersion.
DERWENT CLASS: A96 B02 B04
INVENTOR(S): HJELSTUEN, A H A; OSTENSEN, A H A; SKURTVEIT, A H A; HJELSTUEN, O; SKURTVEIT, R; STENSEN, J; OSTENSEN, J
PATENT ASSIGNEE(S): (NYCO-N) NYCOMED IMAGING AS; (SKUR-I) SKURTVEIT R; (AMER-N) AMERSHAM HEALTH AS; (MARS-I) MARSDEN J C; (HJEL-I) HJELSTUEN O; (OSTE-I) OSTENSEN J
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9953964	A1	19991028	(199954)*	EN	33
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9936174	A	19991108	(200014)		
EP 1079865	A1	20010307	(200114)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
JP 2002512207	W	20020423	(200243)		32
US 2004170564	A1	20040902	(200458)		
EP 1079865	B1	20041020	(200469)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
DE 69921317	E	20041125	(200477)		
DE 69921317	T2	20051110	(200574)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9953964	A1		WO 1999-GB1228	19990422
AU 9936174	A		AU 1999-36174	19990422
EP 1079865	A1		EP 1999-918140	19990422
			WO 1999-GB1228	19990422
JP 2002512207	W		WO 1999-GB1228	19990422
			JP 2000-544367	19990422
US 2004170564	A1	Provisional	US 1998-84881P	19980508
		Cont of	WO 1999-GB1228	19990422
		Cont of	US 2000-673168	20001128
			US 2003-717197	20031119
EP 1079865	B1		EP 1999-918140	19990422
			WO 1999-GB1228	19990422

DE 69921317	E	DE 1999-621317	19990422
		EP 1999-918140	19990422
		WO 1999-GB1228	19990422
DE 69921317	T2	DE 1999-621317	19990422
		EP 1999-918140	19990422
		WO 1999-GB1228	19990422

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9936174	A	Based on	WO 9953964
EP 1079865	A1	Based on	WO 9953964
JP 2002512207	W	Based on	WO 9953964
EP 1079865	B1	Based on	WO 9953964
DE 69921317	E	Based on	EP 1079865
		Based on	WO 9953964
DE 69921317	T2	Based on	EP 1079865
		Based on	WO 9953964

PRIORITY APPLN. INFO: GB 1998-8582 19980422

AB WO 9953964 A UPAB: 19991221

NOVELTY - A combined presentation for simultaneous, separate or sequential use as an ultrasound contrast agent comprises:

(1) an injectable aqueous gas dispersion and

(2) a substance capable of destabilising the dispersed gas to increase the size of the dispersion.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for generating an enhanced image which comprises injecting an aqueous medium containing dispersed gas into the vascular system, administering at least one substance capable of destabilising the dispersed gas to at least transiently increase the size before, during or after injection of the medium and generating an ultrasound image.

USE - The method is useful for generating enhanced ultrasound images and in ultrasound therapy for killing cells or blocking blood flow to a site of interest.

Dwg.0/0

L64 ANSWER 39 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 1994-182648 [22] WPIX

CROSS REFERENCE: 1989-165620 [22]

DOC. NO. CPI: C1994-082811

TITLE: Optical lens bodies and haptics prepared from polymeric materials - comprises silane passivating agent for improved lens material biologically inert, with low surface energy and free from surface defects, for contact lens and intra corneal implants.

DERWENT CLASS: A35 A96 D22 E11

INVENTOR(S): GUPTA, A

PATENT ASSIGNEE(S): (IOPT-N) IOPTEX RES INC

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5319023	A	19940607	(199422)*		5

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

US 5319023	A	CIP of	US 1987-118300	19871109
		Cont of	US 1988-289926	19881223
		Cont of	US 1991-713572	19910611
			US 1992-905991	19920626

PRIORITY APPLN. INFO: US 1987-118300 19871109; US 1988-289926 19881223; US 1991-713572 19910611; US 1992-905991 19920626

AB US 5319023 A UPAB: 19940722

Improved **transport** polymeric optical lens body which is biologically inert to ocular tissue. All surface of the lens are free of surface defects when viewed through a 10 power optical microscope. The improvement is produced by surface passivation which comprises (a) hydrogen bonding water molecules to polymer chains at the outermost surface of the lens body which makes the surface wettable by a silane passivating reagent. The hydrogen bonding is accomplished by immersing the acrylic lens body in a silane passivating reagent. The hydrogen bonding is accomplished by immersing the acrylic lens body in a strong organic base, washing the immersed lens body with deionised water then drying it; and (b) immersing the lens body in a silane passivating reagent reactive to water molecules to attract and remove the water molecules from the outermost surface leaving it smoother with a more regular morphology. The lens body is washed then dried in an oven by ramping. Also claimed, a polymeric material which comprises a (co)polymer of an alkyl (meth)arylate or polypropylene. All surfaces of the polymeric material are biologically inert to ocular tissue, and free of surface defects when viewed through a 10 power optical microscope. The improvement is produced by surface passivation which comprises (a') part (a); and (b') part (b).

The polymeric material has ester gp(s). on a side chain of the repeating unit. The repeating unit does not have any hydroxyl or amino gps. The polymeric material is a polymer of an alkyl acrylate or an alkyl(meth)acrylate. It may be polymethyl-methacrylate, polypropylene, a polyether, a vinyl aromatic or a polyurethane. It may be a trifluoroethyl methacrylate, perfluorooctyl methacrylate, a fluorinated styrene or a fluorinated polycarbonate. The contact angle with water is at least 87 deg. and the contact angle with **glycerol** is at least 75 deg. The surface energy is less than 25 erg/cm2. The strong organic base is a tetraalkyl ammonium hydroxide. The **silane** passivating reagent is a trialkoxyamino **silane.**

USE/ADVANTAGE - Used to make contact lenses, intraocular lenses, intra corneal implants, etc. The lens material is biologically inert and has low surface energy, rendering the material more biocompatible. The optical lenses and haptics produced are more or less free of adverse effects.

Dwg.0/0

L64 ANSWER 40 OF 40 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1993-377454 [47] WPIX
DOC. NO. NON-CPI: N1993-291449
DOC. NO. CPI: C1993-167637
TITLE: Protective **sol-gel** coating for silica optical fibres - contains tetra ethoxy-**silane**, aluminium butoxide, lithium hydroxide, titanium propoxide, zirconium ester and **glycerol.**
DERWENT CLASS: L01 V07
INVENTOR(S): COVINO-HRBACEK, J
PATENT ASSIGNEE(S): (USNA) US SEC OF NAVY

COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5262362	A	19931116	(199347)*		3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5262362	A	US 1992-901649	19920622

PRIORITY APPLN. INFO: US 1992-901649 19920622
AB US 5262362 A UPAB: 19940111
A solgel coating for a SiO2 optical glass comprises (g) 2.126-2.130 TEO, 1.355-1.359 (OC4H9)3, 0.0655-0.0755 LiOH, 0.823-0.827 (OC3H7)4Ti, 0.0748-0.0752 (O2C5H7)4Zr and 0.006-0.016 glycerol. The ingredients are combined by (i) dissolving Al(OC4H9)3 and TEOS in 50ml propanol, heating to 40 deg.C and holding for 5 min., (ii) adding 2ml HNO3, (iii) dissolving 0.07g LiOH in water, (iv) dissolving 0.825g Ti(OC3H7)4 in 10ml propanol, (v) dissolving 0.75g Zr(O2C5H7)4 in 5mll propanol, (vi) adding to solution from (ii) Ti solution, Zr solution, 5 drops HNO3, LiOH solution, 5ml water and 5ml propanol, and (vii) stirring the solution at 40 deg.C for 1-1.5 hr. while adding glycerol dropwise.

ADVANTAGE - The coating for optical glass fibre withstands temps. over 200 deg.C, does not exhibit wide swings in expansion, and is applied by a **sol-gel** process compared to multi-step CVD processes required previously.

Dwg.0/0

L65 ANSWER 1 OF 1 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-191216 [19] WPIX
DOC. NO. CPI: C2001-057210
TITLE: Premixed fluoride-releasing orthodontic adhesive provides facile means for reliable fixing of orthodontic appliances.
DERWENT CLASS: A14 A96 B06 D21 G03
INVENTOR(S): **BRENNAN, J V**; REIMAN, M G; ROZZI, S M
PATENT ASSIGNEE(S): (MINN) 3M INNOVATIVE PROPERTIES CO
COUNTRY COUNT: 88
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000069393	A1	20001123	(200119)*	EN	41
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 9960507	A	20001205	(200119)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000069393	A1	WO 1999-US21693	19990920
AU 9960507	A	AU 1999-60507	19990920

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9960507	A	Based on	WO 2000069393

PRIORITY APPLN. INFO: US 1999-311606 19990513

AB WO 200069393 A UPAB: 20010405

NOVELTY - A one-part premixed adhesive for orthodontic use even in wet conditions having high adhesive strength, ease of removal and a fluoride-refillable source is new.

DETAILED DESCRIPTION - One-part orthodontic adhesive (I) for fixing an orthodontic appliance to a tooth surface comprises: (a) a hydrophilic monomer, oligomer or polymer; (b) a polymerizable monomer, oligomer or polymer; (c) a pyrrolidone-containing monomer, oligomer or polymer; (d) a photopolymerization initiator; (e) a filler; and (f) a fluoride source, such that (I) is substantially free of added water and has a Water Uptake value of greater than 0.5% and a Consistency Value of 32-62.

USE - (I) are useful for fitting orthodontic appliances such as bands and brackets, providing reliable adhesion which can be selectively greater for e.g. stainless steel so that on removal the adhesive comes away with the appliance.

ADVANTAGE - (I) is a premixed fluid adhesive which is easily dispensed from a syringe or other extruding mechanism. The polymerizable components are compatible with the fluoride- containing fillers, providing a composition which has a shelf life of at least one year at room temperature. The adhesive bond is strong resulting in fewer failures than prior art compounds but is easier to remove. The composition has the ability both to release fluoride and also to take up fluoride from e.g. tooth-paste, mouth rinses etc.

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